ANNOTATED BIBLIOGRAPHY OF THE GEOLOGY OF NORTH DAKOTA 1960 - 1979

by

Mary Woods Scott

1981

MISCELLANEOUS SERIES NO. 80
North Dakota Geological Survey
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OF THE

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MISCELLANEOUS SERIES NO. 60

NORTH DAKOTA GEOLOGICAL SURVEY

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INTRODUCTION

This bibliography focuses on the geologic literature of North Dakota published during the years 1960 through 1979. A similar bibliography of all known geologic literature on North Dakota that was published between 1805 and 1960 was issued by the North Dakota Geological Survey in 1972 (Scott, 1972). Some references to the literature prior to 1960 are also included in this volume, since they were omitted from the earlier one. Decisions to include or exclude references from this bibliography were based primarily on the value of the article to the study of the geology of North Dakota. Additional reference sources should be consulted when researching areas that are not uniquely North Dakota (Williston Basin, Madison Group, Red River Valley, etc.).

The citation format used in this bibliography is that of the sixth edition of the "Suggestions to Authors of the Reports of the United States Geological Survey" (Bishop, E. E., Eckel, E. B., and others, 1978). Entries in the bibliography are arranged alphabetically by author. Several reports done by the same author are arranged chronologically from oldest to youngest. Several reports published during a single year by the same author are arranged alphabetically by title. Reports by two or more authors are listed following the reports done by the first author alone. Each entry includes keywords and/or keyword phrases to describe the contents of the report; in this respect the bibliography differs from the 1972 version, which included annotations for many of the entries. The "GEOREF Thesaurus and Guide to Indexing," second edition (Heckman, and others, 1978), and the American Geological Institute's "Glossary of Geology" (Gray, and others, 1972) were the major sources of keywords used in the bibliography. These were supplemented by terminology from the report itself. In most instances, stratigraphic, geographic, and paleontologic terminology was selected from the report.

The subject index is patterned after the index of the "Bibliography and Index of Geology," published by the American Geological Institute. The "GEOREF Thesaurus and Guide to Indexing," second edition, was used to construct the index. The major headings in the index are subdivided where necessary and where possible. Cross references indicate that the term listed is not used as a heading and the user is referred to the correct index term, for example: "FOSSILS see PALEONTOLOGY," or "EOCENE see Subheadings under TERTIARY." The user should consult the related headings listed for additional reports that may interest him. Most of the stratigraphic reports will be found under the names of the specific stratigraphic unit. A single report may be listed under several different headings in the index.
REFERENCES


methods of study; water; soil; clays; glacial clays; thorium; radium


lignite; leonardite; humic acids; analysis; uses; by-products


buried glacial-valley aquifers; potential yields


aquifers; sandstones; siltstones; water quality; groundwater movement


bedrock aquifers; glacial-drift aquifers


hydrogeology; groundwater; well data; well logs; water quality

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geologic map; well data; Pembina Delta; glacial Lake Agassiz; Pembina River; groundwater; chemical analysis

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physiographic provinces; geomorphology; maps; physiographic diagram


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Devonian; petroleum; exploration


structure maps; Mississippian; Madison "Fryburg Pay"; Permian; Minnekahta Formation; Cretaceous; Mowry Formation; salts; producing formations; reservoirs; Williston Basin; oil fields; structural geology

structure maps; Cretaceous; Mississippian; Permian; Williston Basin; salts; petroleum potential


calcretes; Newcastle Sandstone; Golden Valley County; Billings County; Stark County; Slope County; Hettinger County; Dunn County; stratigraphic trap; isopach maps; structure map; petroleum possibilities; cross sections


isopach maps; Newcastle Formation; stratigraphy; Cretaceous; cross sections; petroleum; sandstone


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Madison Group; nomenclature-revised; isopach map; geologic map; Bottineau area; Spearfish Formation


lime; limestone deposits; uses

crushed stone; dimension stone; economic geology


natural gas; Madison Group; stratigraphic section; gas analysis; structure contour map; Greenhorn Formation; Nesson Anticline; nitrogen gas; Minnelusa Formation; production; use; underground storage; reserves; lithology; cross section


Burke County; Mississippian; Madison Group; oil fields; isopach maps; porosity maps; structure contour maps; stratigraphic; nomenclature


Red River Formation; Grand Forks County; Pembina County; structure map; isopach map; stratigraphy; well logs; lithology; X ray analysis; chemical analyses; cores; limestone; geologic map; cross sections; test wells


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   remote sensing; lineaments; aquifers; groundwater movement; lignite beds; Fox Hills-basal Hell Creek Aquifer; upper Hell Creek-Ludlow Aquifer


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   hydrogeology; Divide County; water quality; Cretaceous; Fox Hills Formation; Hell Creek Formation; Tertiary; Fort Union Group; Cannonball Formation; Ludlow Formation; Tongue River Formation; aquifers; glacial drift; glacial aquifers; municipal water supply


   Williams County; well data; well logs; water quality; water levels; water chemistry; groundwater resources

Burke County; Mountrail County; groundwater; water wells; well logs; water levels; water chemistry; well records


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groundwater; water quality; aquifers; glacial aquifers; Cretaceous; Tertiary; Quaternary; water use


aquifers; lithology; water quality


well data; well logs; water quality; Fox Hills Formation; heavy mineral analyses


Dickey County; LaMoure County; aquifer; groundwater quality; potential yields


Dickey County; LaMoure County; aquifer; water quality; potential yields


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glacial Lake Agassiz; lithostratigraphy; Sherack Formation; Poplar River Formation; West Fargo Member; type sections; Harwood Member; Brenna Formation; Falconer Formation; Huot Formation; Wylie Formation; Argusville Formation; Pleistocene; Holocene; glacial history; lake stages; radiocarbon dates; depositional environments; engineering geology; test holes; cross sections


Cavalier County; hydrogeology


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groundwater resources; environmental geology; land use; regional planning; areal geology


Lake Agassiz, glacial sediments; engineering geology


land-use planning; land resources; mineral resources; groundwater resources; sanitary landfill; potential for pollution of groundwater

geology; Fort Union Formation; McLean County; Mercer County; groundwater; glacial deposits; topography; well logs; Missouri River channel


Williston Basin; stratigraphy; oil wells; Nesson Anticline; discovery wells


Williston Basin; stratigraphy; oil wells; Nesson Anticline; discovery wells


Fox Hills Formation; Emmons County; volcanic ash; paleontology; Cretaceous; palynology


Fox Hills Formation; Cretaceous; palynology; volcanic ash; paleoecology; stratigraphy; paleontology; correlation


Fox Hills Formation; Cretaceous; volcanic ash; palynology


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oils; production; oil reservoirs; cross sections; isopach maps; structure maps; stratigraphy; reserves; exploration


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petroleum; exploration; drilling


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glacial fluvial features; Milnor channel; Sargent County; Richland County; Ransom County; Sheyenne River; glacial drainage


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road log; North Dakota; geology


Kidder County; geology; geologic map; glacial geology; stratigraphy; geologic history; topography; drainage patterns (geologic); cross sections; preglacial drainage


economic geology; lignite reserves


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North Dakota; exploration; development


North Dakota; exploration; development


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lignite; oil and gas; sodium; uranium; bentonite; volcanic ash; kaolin; economic geology; mines


sand and gravel; economic geology


Dunn County; Billings County; McKenzie County; McLean County; lignite; oil and gas; potassium; uranium; volcanic ash; aluminum; mineral resources

Williams County; land use; mineral resources; environmental geology; water resources; coal; oil and gas; volcanic ash; clay; mineral resources

lignite; oil and gas; sodium; uranium; volcanic ash; aluminum; kaolin; mines; economic geology


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Williston Basin; mineralogy; uranium; bibliographies; palynology; lignite; paleobotany; petrography; chemical analyses; radioactive material; Paleocene; depositional environments


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strip mining laws; reclamation; legislation; legal aspects

mining laws; reclamation laws; North Dakota


hydrogeology; glacial aquifers; water analysis; well data; well logs; Steele County; Traill County; Grand Forks County

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glacial Lake Agassiz; geologic maps; Red River Valley; geology


engineering geology; Fargo; Cass County; Red River Valley; bridge construction; geology; Lake Agassiz sediments; lake clays; glacial till; properties


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paleontology; petrified wood; stratigraphy; Little Missouri Badlands; Cretaceous; Tertiary; fossil wood; sequoia cones; teredo wood


erosion; cirques; geomorphology

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Red River Valley; groundwater; saline water; water table; water chemistry; Grand Forks County


Lake Agassiz; groundwater; drainage; salinity; Dakota sandstone; water table; observation wells; hydrogeology; Grand Forks County; Cretaceous aquifers

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Hell Creek Formation; Cretaceous; palynology; palynological zonation; new species


Hell Creek Formation; paleontology; Pretty Butte Member; palynology; Morton County; Late Cretaceous


land use; Red River Valley; groundwater; wetlands; planning

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mollusks; Cretaceous; Paleocene; paleontology; Hell Creek Formation; Tullock Formation; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation


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Tongue River Formation; Paleocene; mollusks


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Quaternary; Pleistocene; Holocene; sloughs; geochronology; paleoclimatology; paleoenvironments; stratigraphy


glacial stratigraphy; Quaternary; preglacial drainage; diversion


Quaternary; glacial geology; soils; sedimentation; stratigraphy; Emmons County; geologic map


sloughs; Quaternary; stratigraphy; paleoclimatology; paleoenvironments


Quaternary; sloughs; paleontology; radiocarbon date; stratigraphy; Stutsman County; paleoenvironments


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lignite; coal mines; wages; mining; methodology; production; income; economics; history; inspection

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geomorphology; glacial features; groundwater movement


glacial geology; bedrock geology


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bedrock topographic map

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glacial geology; geomorphology; geographic history; glacial history

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glacial geology; geomorphology; paleontology; natural resources; road logs; geologic map


preglacial drainage; North Dakota; Pleistocene drainage changes; Missouri River


glacial geology; Lake Agassiz; geologic history


bedrock topographic maps; geologic maps; glacial Lake Agassiz; glacial deposits

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Red River Valley; Drift Prairie; Missouri Coteau; Turtle Mountains; Prairie Coteau; Missouri Plateau

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glacial geology; geologic history; geomorphology; mineral resources; road log


glacial geology; geomorphology; paleontology; natural resources; road logs; geologic map

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stratigraphy; topography; Precambrian; Cretaceous; Greenhorn Formation; Niobrara Formation; Paleontology; Pierre Formation; Pleistocene; Coleharbor Group; till; lithology; lithostratigraphy; silt and clay; sand and gravel; Holocene; Oahe Formation; geomorphology; glacial landforms; Whitestone Hills; Lake Oakes Hills; lacustrine landforms; glacial Lake Dakota; fluviolacustrine landforms; Sheyenne Delta; eolian landforms; geologic history; glacial Lake Agassiz; geologic maps; economic geology

Wells County; geologic map; cross sections; bedrock topographic map; stratigraphy; Cretaceous; Pleistocene; glacial geology; paleontology; geomorphology; economic geology


geologic map; road log; badlands; lignite; scoria


Dickey County; Emmons County; glacial sediments; soil; fossils; fissures; caverns; slough deposits; groundwater levels; erosion


road log; guidebook; glacial geology; economic geology; groundwater; lignite; sand deposits; gravel deposits; surficial geology; geologic map; Burleigh County


guidebook; road log; Red River Valley; glacial geology


geologic map; geologic history; geomorphology; glacial geology; natural resources; road log


geology; biology; geography; ecology; Standing Rock Sioux Indian Reservation; Turtle Mountain Indian Reservation; Fort Berthold Indian Reservation; Devils Lake Sioux Indian Reservation; geologic maps; field trips; history


Logan County; glacial deposits; geologic history


Logan County; geologic map; physiographic provinces; Pierre Formation; Fox Hills Formation; paleontology; glacial geology; Pleistocene; glacial deposits; glacial features


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marine reptile; Ransom County; Niobrara Formation; Cretaceous; paleontology; reptilia


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groundwater; aquifers; mineral resources; environmental geology; petroleum; lignite; uranium; potash; sodium chloride; sodium sulfate; sand and gravel; glacial deposits; bedrock; geologic map-Williston area


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Devils Lake; carbonates; lake sediments


Devils Lake; calcium compounds; geochemistry; sediment-water interfaces


lithostratigraphy; Quaternary; Sheyenne River trench; James River trench; drift prairie; Pleistocene history; till; petrology; lithology; morphostratigraphy; ecostratigraphy; topography; glacial features; glacial advances; research methods


glacial geology; till; stratigraphy


natural resources; peat deposits; economic geology

western North Dakota; magnetic studies; magnetic anomalies

western North Dakota; magnetic anomalies

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limestone; cement; deposits; Niobrara Formation; utilization


bedrock geologic map; North Dakota


stratigraphy; Paleozoic; Mesozoic; isopach maps; Fox Hills Formation; Hell Creek Formation; Cenozoic; Ludlow Formation; Cannonball Formation; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation; Pleistocene; geomorphology; geologic history; glacial geology; economic geology; geologic map

physiography; stratigraphy; Sauk Sequence; Tippecanoe Sequence; Kaskaskia Sequence; Absaroka Sequence; Zuni Sequence; Tejas Sequence; Pierre Formation; Fox Hills Formation; Hell Creek Formation; Ludlow Formation; Cannonball Formation; Sentinel Butte Formation; White River Group; lithology; paleoenvironments; geologic history; lignite; petroleum; Williston Basin; Cedar Creek Anticline; uranium


geologic history; structure features; sedimentary deposits; depositional history; isopach maps; petroleum; production; tectonics; lithology; depositional environments


Mississippian; Madison Formation; stratigraphy; stratigraphic nomenclature; well logs; lithology; petroleum potential


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structural geology; Williston Basin; Nesson Anticline; Cedar Creek Anticline; earthquakes; Red Wing fault; Sanish fault; faults (geologic)


structural geology; Williston Basin; oil fields; stratigraphy; Nesson Anticline; Cedar Creek Anticline; Pre-Mesozoic paleogeologic map; petroleum; exploration; production; reserves


stratigraphy; Ordovician; Silurian; Stony Mountain Formation; Stonewall Formation; Interlake Formation; deposition (sediments); economic geology; oil; petrography; carbonates; isopach maps; lithology; structural geology; cross sections

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Sentinel Butte Formation; Paleocene; stratigraphy; lithology; sedimentary structures; paleocurrent directions; depositional environments; sand beds; mineralogy; silt beds; clay beds; lignite beds; sedimentology; cross sections


McKenzie County; Paleocene; fluvial environment; sedimentation; sedimentary structures; cross bedding; deltas; meanders; channels; paleoenvironments


Oligocene; White River Formation; Stark County; rhinoceros; vertebrate paleontology


Cretaceous; Tertiary; Williston Basin; heavy minerals; Hell Creek Formation; Fort Union Formation; Brule Formation; Arikaree Formation; mineralogy; Chadron Formation

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Williston Basin; economic geology; geography; structural geology; stratigraphy; carbonates; oil and natural gas


McKenzie County; Sperati Point Quadrangle; Badlands; topography; stratigraphy; Tongue River Formation; Sentinel Butte Member; lithology; X-ray diffraction; structure; paleontology; depositional environments; geologic history; Golden Valley Formation; Wiota Gravel; glacial outwash deposits; geologic map; stratigraphic sections


erosion-piping; caves; Badlands


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northern Logan County; glacial geology; surface water; geomorphology; glacial features; glacial Lake Napoleon; moraines; till; bedrock; Pierre Shale; paleontology; upper Cretaceous rocks; Cenozoic deposits; Pleistocene deposits; geologic history; lithology; morphostratigraphic units; Napoleon drift-type area; radiocarbon dates; glacial history; Burnstad drift-type area; correlations; economic geology


Alaska; North Dakota; Pleistocene; modern analog; glacial geology; glacial features


Pleistocene; stratigraphy; radiocarbon dates; nomenclature; glacial deposits


glacial features; topography; dead-ice moraine; disintegration ridges; "doughnuts"; collapsed stream sediment; disintegration trenches; ice-walled-lake plains; collapsed lake sediments; Martin River Glacier, Alaska; modern analog


seepage studies; groundwater movement; erosion


lineaments; bison trails; joints


Dunn County; geologic map; lithology; glacial deposits; glacial history; paleoclimatology


erosion; gully erosion; lineaments; animal trails; wind erosion


Mountrail County; geologic map; geomorphology; geologic history; stratigraphy; Pleistocene; Coleharbor Formation; Golden Valley Formation; Sentinel Butte Formation; Tongue River Formation; groundwater; surface water; glacial geology; depositional environments; stratigraphy; postglacial history

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Fort Union Group; stratigraphic nomenclature; Tertiary; Slope Formation; type section; Bullion Creek Formation; lithostratigraphy


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- glacial Lake Agassiz; lineations; lake deposits; glacial features


- Quaternary deposits; stratigraphy; depositional environments; loess deposits


- Oahe Formation; Pleistocene stratigraphy; type sections


- Golden Valley Formation; Eocene; archaeology; quarries; petrology; deposits


- erosion; slopes; sediment transport; sediment yield; geomorphology; Badlands; hydrology; runoff; sedimentation


- Cedar Creek Anticline; salts; oil fields; oil wells; casings; salt flow; structure map; Spearfish Formation; salt collapse


- petroleum; natural gas; production; tectonics; structural traps; Williston Basin; exploration; reservoir rocks


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Fox Hills Sandstone; Cretaceous; Judith River Formation; stratigraphic nomenclature


Big Snowy Formation; Mississippian; stratigraphic nomenclature


Birdbear Formation; Devonian; Greenhorn Formation; Cretaceous; stratigraphic nomenclature


lignite; Paleocene; Golden Valley County; peat; composition; paleontology


North Dakota; Williams County; Montana; geology


glacial map; glacial deposits; glacial Lake Agassiz; glacial features; radiocarbon dates; preglacial drainage; North Dakota


Portal Pipeline Company; oil pipeline; North Dakota; construction


Madison Formation; Poplar Interval; Mississippian; stratigraphy; lithostratigraphy; Williston Basin; sedimentary rocks; carbonate rocks; evaporites; anhydrite; salt; lithofacies; reservoir rocks; petroleum; exploration; well logging; cross sections; structure contour map

Madison Formation; Poplar Interval; Mississippian; well logs; stratigraphy; stratigraphic correlations; lithology; anhydrites; carbonates; depositional environments; structural geology; Nesson Anticline; Billings High; Divide High; Cedar Creek Anticline; economic geology; oil; cross sections; isochore map; structure contour map


 lignite; drill-hole data; geophysical logs; lithology


leonardite; lignite; humic acid; analysis; methodology; utilization


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Tertiary sediments; Ludlow Formation; Fort Union Formation; clays; X-ray diffraction; mineralogy; geochemistry

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geohydrology; groundwater; glacial aquifer; Tongue River aquifer; Sentinel Butte aquifer; water chemistry; lignite aquifers


lignite strip mine; groundwater; geochemistry; water chemistry; Fort Union Formation; pollution


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Adams County; Bowman County; aquifers; water quality; groundwater flow


groundwater resources; aquifers; water wells; water quality; water yield; groundwater recharge; hydrographs


Adams County; Bowman County; groundwater; aquifers


well data; water wells; water levels; hydrogeology; well logs; aquifer characteristics; water analyses; groundwater resources

Gascoyne Mine; groundwater chemistry; lignite strip mine; environmental effects


Bowman County; Fort Union Formation; Tongue River Member; aquifers; groundwater flow; models


Adams County; Bowman County; hydrogeology; well data; water chemistry; stratigraphy; water quality; water utilization; aquifers


water quality; geochemistry; surface water; groundwater; pollution


Pierre Shale; Fox Hills Formation; Hell Creek Formation; Fort Union Formation; Tullock Member; Ludlow Member; Tongue River Member; groundwater; aquifers; geochemistry


groundwater; computer model; aquifers; lignite; geochemistry; pollution


groundwater flow; model; aquifers; mining effects; water quality


Fox Hills Sandstone; Hell Creek Formation; Mercer County; Oliver County; aquifers; Cretaceous


lignite; petroleum; sand; gravel; natural gas; production data

sodium sulfate deposits; location; potential


Sentinel Butte aquifers; Tongue River aquifers; groundwater movement; lignite; water quality


water resources; physiography; drainage; drainage patterns (geologic); precipitation; surface waters; runoff; floods; Missouri River Basin; discharge (water); Red River Basin; groundwater; aquifers; Precambrian aquifers; Paleozoic aquifers; glacial aquifers; Dakota aquifer; Pierre aquifer; Fox Hills-Hell Creek aquifer; Fort Union aquifer; water quality; chemical analyses


Mission Canyon Formation; Red River Formation; Duperow Formation; exploration; production; reservoir rocks; petroleum


potholes; water quality; sedimentation; water chemistry


uranium; lignite; Sentinel Butte Member; Fort Union Formation; Paleocene; stratigraphy; Billings County; structural geology; stratigraphic correlation


Madison Limestone; aquifer; Mississippian; hydrogeology; groundwater
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Cannonball Formation; Paleocene; mollusks; paleontology


mollusks; Recent; Red River; water quality


Cannonball Formation; Paleocene; mollusks; pelecypods; paleontology; new species; type localities


Red River Valley; mollusks; ecology; water chemistry; drainage changes


Red River Valley; mollusks; Recent; ecology; water quality


paleontology; petrified wood; mollusks; Cannonball Formation; Paleocene; Pierre shale; Cretaceous; legislation; "Teredo petrified wood"


Cannonball Formation; Paleocene; paleontology; mollusks
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Cannonball Formation; Paleocene; geologic map; cross sections; Tertiary; stratigraphy; sedimentary structures; lithology; structural geology; paleontology; stratigraphic correlations; depositional environments; uranium; economic geology

Fox Hills Formation; Cretaceous; cross sections; isopach map; stratigraphic nomenclature; stratigraphy; lithology; sedimentary structures; structural geology; paleontology; depositional environments; uranium; economic geology

Quaternary; Seibold Site; Stutsman County; paleontology; paleoecology; radiocarbon dates; Holocene; climatic changes

Quaternary; Seibold Site; Stutsman County; sloughs; glacial deposits; stratigraphy; paleontology; fish (fossil); radiocarbon dates; palynology; sedimentary history; fossil frog, beaver and muskrat; fossil insects

mollusks; Forest River; Holocene; ecology; paleoecology; paleontology

mollusks; Turtle River; Recent


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glacial features; topography; Rolette County

Rolette County; glacial features; till; topography

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mollusks; Tongue River Formation; Sentinel Butte Formation; paleontology

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Dunn County; geology; structure; stratigraphy; measured sections; sedimentary structures; lithology; paleontology; petrology; limestone; dolomite; chert; tuffite; tuff; mineralogy; petrogenesis; depositional environments; geologic age; sediments; geochemistry; paragenesis; diagenesis; sedimentary structures; carbonate rocks; Tertiary; "Killdeer Model"


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geochemistry; lignite; groundwater


Williston Basin; stratigraphy; Cretaceous; Tertiary; Quaternary; paleontology; carbonate rocks; chemical analyses; spectroscopy; concretions; mineralogy; structural geology; uranium deposits; geology; lignite deposits; groundwater analyses; geochemistry; trace elements


Devils Lake Basin; geology; groundwater; soils; climate; history; population; land use; agriculture; economics; recreation; transportation; archeology; wildlife; wetlands; hydrology; water quality; water pollution; floods; flood control; water level fluctuations; project planning; alternative planning; costs; channel improvement


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Spearfish Formation; Williston Basin; Triassic; Permian; stratigraphy; Belfield Member-type section; Pine Salt Member; Saude Member-type section; lithology; type logs; stratigraphic correlation charts; structural geology; Nesson Anticline; Cedar Creek Anticline; Bowman Low; Golden Valley Low; Stark High; Mercer High; economic geology; oil fields; petroleum; salts; groundwater; gypsum; isopach maps; cross sections


Spearfish Formation; Williston Basin; Triassic; Permian; stratigraphy; Belfield Member-type section; Pine Salt Member; Saude Member-type section; lithology; type logs; stratigraphic correlation charts; structural geology; Nesson Anticline; Cedar Creek Anticline; Bowman Low; Golden Valley Low; Stark High; Mercer High; economic geology; oil fields; petroleum; salts; gypsum; groundwater; isopach maps; cross sections


Ordovician; Red River Formation; carbonates; dolomite


Williston Basin; petroleum geology; Paleozoic; Mississippian; exploration; production


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Nelson County; groundwater resources; water analyses; chemical analyses; glacial aquifers; aquifers; Cretaceous; Pierre Shale; maps; groundwater availability


water supply; water wells; groundwater; water utilization; electric well logging; hydrologic data; hydrologic properties; physical properties; chemical analyses; water chemistry; water quality; Nelson County; Walsh County

water resources development; groundwater; hydrogeology; water wells; aquifers; water levels; water yield; water quality; chemical analyses; hydrographs; Walsh County


groundwater resources; water supply; well data; aquifers; water quality; hydrogeology; Nelson County; Walsh County


groundwater resources; glacial aquifers; computer model; Cass County; groundwater flow


Dunn County; strip mining; groundwater; changes caused by mining


groundwater; water quality; bedrock geology; glacial geology; aquifers; utilization; water resources


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petroleum; natural gas; exploration; drilling; oil fields; oil wells


biography; early survey; glacial Lake Agassiz

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cross sections; Madison Formation; Williston Basin; structure maps; isopach maps; lithology; stratigraphy; Probisher-Alida interval; Mississippian


Madison Formation; Mississippian; isopach maps; Bottineau County; stratigraphy; lithology; facies (sedimentary); structural geology; oil reservoirs


mineral resources; Little Missouri grasslands; lignite; oil; natural gas; sand; gravel; clays


Oliver County; power plants; geology; land use; physiography; water resources; Missouri River; Square Butte Creek; water quality; water temperature; groundwater quality; fish; climate; air quality; lignite; cooling water; industrial wastes; soils; botany; animals


Fort Union Formation; strip mines; overburden; spoil piles; reclaimed land; soils; geochemistry; chemical changes; mining effects

Fort Union Formation; North Dakota; Montana; Wyoming; geochemistry; shale; sandstone; land reclamation; spoil piles; strip mines


Lake Agassiz; surveys; publications; history


potholes; water balance; salinity; wetlands; evapotranspiration; glacial drift; hydrogeology; evaporation; seepage; topography


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lignite; reserves; production; utilization


uranium; lignite; Adams County; Billings County; Bowman County; Dunn County; Golden Valley County; Grant County; Slope County; Stark County; deposits; reserves


glacial deposits; clays; glacial Lake Agassiz; lithology; engineering problems; building settling; bearing tests; groundwater

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lignite; analysis; storage
Lake Agassiz; glacial lake deposits; soils; glacial drift; mineralogy; end moraines; clay deposits; groundwater; glacial deposits; deltas; shore deposits; near-shore deposits; bibliographies

Lake Agassiz; glacial stratigraphy; radiocarbon dates; strandlines; outlets; moraines

Lake Agassiz; Campbell strandline; beaches; history

Lake Agassiz; glacial lakes; glacial lake features; geologic history; topography; sediments; deltas; radiocarbon dates; beaches; lake stages; Pleistocene

Lake Agassiz; beaches; pebble roundness; geologic age

clay mineralogy; Sentinel Butte Formation; Tongue River Formation; Tertiary; X ray diffraction studies

clay mineralogy; Sentinel Butte Formation; Tongue River Formation; Tertiary; X ray diffraction studies


lignite; strip mining; reclaimed land; geochemical studies; molybdenosis; soils; plants; copper; molybdenum; cattle; sheep

biogeochemistry; sweetclover; spoil piles; lignite mines; Montana; North Dakota; Wyoming; molybdenosis; cattle; sheep; toxic effects; copper-to-molybdenum ratio


wheat; biogeochemistry; spoil piles; reclaimed land; North Dakota; Montana; chemical elements; trace metals in soils; toxic effects; strip mining

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paleontology; Billings County; Tongue River Formation; Tertiary; Paleocene; turtles (fossil); new species; type locality


Billings County; Tongue River Formation; Paleocene; Tertiary; paleontology; type locality; new species


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Fox Hills Formation; paleontology; Cretaceous; paleoenvironment; stratigraphy; systematic paleontology; mollusks; gastropoda; taxonomy; paleoecology; new taxa


paleontology; mollusks; systematics; Sioux County; Emmons County; paleoecology; geologic history; stratigraphy; fossil assemblage zones; Cretaceous; Fox Hills Formation; Trail City Member


Cretaceous; Emmons County; Sioux County; paleogeography; tectonics; Trail City Member; Fox Hills Formation


structural geology; remote sensing; petroleum; exploration; Williston Basin


Nesson Anticline; Antelope Anticline; Williston Basin; structural geology; faults (geologic)


Williston Basin; lineaments; earthquakes; faults; tectonics; structural geology; Redwing Creek fault

Golden Valley Formation; Stark County; Eocene Age; salamanders; paleontology; new species; type locality


vertebrate paleontology; Stark County; Oligocene; fossil frogs


vertebrate paleontology; Oligocene; North Dakota; Scaphiopus; fossil frog

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Wells County; glacial geology; geologic map; geomorphology; glacial features; stratigraphy; Pierre Shale; Fox Hills Formation; Hell Creek Formation; Pleistocene; stratigraphy; glacial history; glacial drift; till analyses; mineralogy; size analyses; paleontology; groundwater


Homme Dam; Park River; Walsh County; climate; geology; geologic map; soils; soil map; groundwater; water chemistry; botany; wildlife; land use; archeology; economics; population; environmental effects; bank erosion; sedimentation; discharge (water); Homme reservoir; recreation; biological census


groundwater; Montana; North Dakota; Wyoming; geochemistry


Fort Union coal region; groundwater; Dunn County; geochemistry


Oligocene; fish; paleontology; Sentinel Butte area


Forest River; Pleistocene; Lake Agassiz; glacial geology; fish; environments; Recent


Fox Hills Formation; Cretaceous; stratigraphy; mollusks; pelecypods; paleontology; Emmons County; stratigraphy; paleoecology


Sibley Buttes; Kidder County; Fox Hills Formation; Cretaceous; paleontology; structure


Fox Hills Formation; Emmons County; stratigraphy; Pierre Formation; lithology; paleontology; paleoecology; depositional environments


Cretaceous; Fox Hills Formation; stratigraphy; nomenclature; paleontology; measured sections; lithology; paleoecology; depositional environments; facies; new species; type localities


Fox Hills Formation; Cretaceous; Sioux County; mollusks; paleontology

Fox Hills Formation; Cretaceous; mollusks; bivalves; paleoecology


Cannonball Formation; cephalopods; paleontology; Paleocene; Morton County; paleoecology


Fox Hills Formation; Cretaceous; history; Sioux County; Morton County; Emmons County; stratigraphy; lithology; correlation; paleoecology; mollusks; fossil lists; depositional environments; sedimentology; volcanic ash; geologic age


Fox Hills Formation; Sioux County; Cretaceous; paleontology; crabs; crustaceans; Timber Lake Member; new taxa


Cretaceous; Niobrara Formation; micropaleontology; coccoliths; sample preparation; flagellates; protozoans; fossils


Cannonball Formation; Paleocene Age; Morton County; paleontology; lobsters; new species; paleoecology


Logan County; Emmons County; pelecypods; Cretaceous; Fox Hills Formation; mollusca; taxonomy; morphology; paleoecology; biostratigraphy; paleontology; new taxa


Fox Hills Formation; geologic map; paleontology; Cretaceous; oysters; stratigraphy; geology; biostratigraphy; paleoecology; depositional environments

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Cannonball Formation; stratigraphy; Tertiary; Paleocene; lithology; paleoecology; paleontology; depositional environments; methodology; sedimentology; sedimentary structures; foraminiferids; biostratigraphy; geologic age; correlations


Williston Basin; reservoirs; oil fields; Devonian; Sanish Pool; structure; stratigraphy; faults; contour map; Mission Canyon Formation; cross section; reservoir pressure; lithology; production; Antelope Field


leonardite; Bowman County; Divide County; analyses; utilization


petroleum; exploration; well data; computer maps; structure maps


Emmons County; geology; stratigraphy; glacial geology


fluorides; groundwater; chemistry; Dakota Sandstone


Cretaceous; sedimentary basins; Canada; Williston Basin; bentonites; geologic age; volcanic rocks


oil and gas conservation law; legislation; unitization; oil fields; secondary recovery (oil)


porosity; maps; crude oil; analyses; Burke County; oil fields; performance (oil fields); production; well data; oil reservoirs


petroleum; economics; reserves


economics; petroleum; exploration; production; costs


oil; production; reserves; oil wells; exploration; petroleum


petroleum; reserves; oil wells; exploration

- oil and gas reserves; map; Williston Basin; cross section; oil producing formations; crude oil inventory; petroleum reserves


- oil; production; reserves; oil wells; exploration


- petroleum; reserves; production; oil wells


- oil; production; reserves; oil wells; exploration; petroleum


- oil; production; reserves; oil wells; exploration; petroleum


- petroleum; reserves; production; oil fields; drilling; oil wells


- oil; production; reserves; oil wells; exploration; petroleum


- oil; production; reserves; oil wells; exploration; petroleum


- oil; petroleum; reserves; oil wells; production


- petroleum; reserves; production; oil wells; drilling


- oil; petroleum; reserves; production; exploration; oil wells


- oil; petroleum; production; reserves; exploration; oil wells


- oil; petroleum; production; reserves; exploration; oil wells

oil and gas fields; production; reserves; geology; exploration


oil wells; oil fields; production; oil well drilling


petroleum; exploration; production


clay minerals; petrography; Tertiary; Paleocene; volcanic ash; sedimentary rocks


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leonardite; lignite; analyses; properties; uses; deposits


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Knife River flint; lithic source locations


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Williams County; geologic map; bedrock topographic map; cross sections; geomorphology; stratigraphy; Precambrian; Sauk Sequence; Tippecanoe Sequence; Kaskaskia Sequence; Absaroka Sequence; Zuni Sequence; Tejas Sequence; Cannonball Formation; Ludlow Formation; Tongue River Formation; Sentinel Butte Formation; Quaternary; Wiota gravel; preglacial deposits; glacial deposits; glacial till; geologic history; glacial history; economic geology


Burke County; glacial geology; Coleharbor Formation; Sentinel Butte Formation; Tongue River Formation; geologic map; bedrock topographic map; geologic cross section; geomorphology; fossil locations; fossil list


Glacial Lake Agassiz; Grand Forks County; glacial deposits; stratigraphy; lithology; beaches; Elk Valley Delta

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  fields; oil wells; well data; isopach maps; cross sections; 
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  Souris deposits; water analyses; well data; geologic map

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  Bottineau County

hydrogeology; Rolette County; chemical analyses; ground water; Turtle Mountains; well records; glacial aquifers; well logs


hydrogeology; Renville County; glacial drift deposits; glacial aquifers; water analyses; well logs


Hell Creek Formation; lithology; Breien Member; Fox Hills Formation; paleontology; Cretaceous


Cretaceous; stratigraphy; nomenclature; stratigraphic correlations; lithology; paleontology; fossil lists; petrology; mineralogy; conglomerates; sandstones; tuffs; bentonite; graywackes; siltstones; Ludlow Formation; Cannonball Formation; Fox Hills Formation; shales; scoria; concretions; paleoecology; depositional environments; geologic history; measured sections; type sections


Cretaceous; history of nomenclature; stratigraphy; correlation; lithology; paleontology; type sections; list of exposed sections; fence diagrams


Williston Basin; Ordovician; Silurian; dolomitic limestone; dolomite; sedimentary geology; lithology; stratigraphy

Williston Basin; Ordovician; Cambrian; geologic map; Winnipeg Group; stratigraphy; lithology; Bighorn Group; Red River Formation; isopach maps; Stony Mountain Formation; Stonewall Formation; Silurian; geologic ages


Williston Basin; stratigraphic nomenclature; Cambrian; isopach maps; cross sections; Ordovician; Silurian; lithology


Williston Basin; stratigraphy; Winnipeg Group; Ordovician


Devonian; stratigraphic correlation; cross sections; Prairie Salt; Winnipegosis Formation; Elk Point Group; Dawson Bay Formation; Souris River Formation; Three Forks Formation; Qu'Appelle Group; Sanish Sandstone; Bakken Formation


evaporites; Devonian; Mississippian; Williston Basin


Elk Point stratigraphy; Upper Elk Point Basin; Devonian; Williston Basin; sedimentary geology; evaporites; carbonates; reefs


Williston Basin; evaporites; Devonian; Mississippian; oil reserves


glacialsediments; drainage changes


lithostratigraphy; geologic history; glacial history; Quaternary; glacial stratigraphy; Glass Bluff Formation; Redwing Creek Formation; Charbonneau Creek Formation; Dimmick Lake Formation; type sections; new formations

analcite; sandstones; zeolites; petrography; X ray diffraction; stratigraphy; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation; Chadron Formation; Brule Formation; Arikaree (?) Formation; lithology; mineralogy; clay minerals


Tertiary; sandstone; mineralogy


Tertiary; sandstone; mineralogy

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Williston Basin; oil wells; exploration; Red River Formation; Ordovician oil


Williston Basin; oil wells; exploration; oil fields


petroleum; exploration


Red River Formation; production; Ordovician; petroleum; exploration; Williston Basin


petroleum; exploration

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surveys; history; Missouri River Basin


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North Dakota; Red River Formation; petroleum; exploration; production


carbonate rocks; carbonate mud; disconformities; algae; origin of carbonates; reefs; banks; strandlines; evaporites; sedimentation


petroleum; history of development; oil fields; producing horizons; oil and gas industry; production; taxes; regulations; exploration


Renville County; Bottineau County; oil field; lithology; structure; isopach map; paleoenvironments; porosity; diagenesis


petroleum; legislation; wilderness areas; McKenzie County; Billings County; Golden Valley County; Slope County

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Pierre Shale; Cretaceous; stratigraphy; geologic history; paleogeographic maps; cross sections; correlation charts

Pierre Shale; Cretaceous; Barnes County; Cavalier County; Manitoba; stratigraphy; correlations charts; paleontology; Pembina Member; lithology; Gregory Member; DeGrey Member; Odanah Member; reference sections


Cretaceous; Montana Group; ammonites; stratigraphic nomenclature; stratigraphy; geologic history; stratigraphic correlations; cross sections; Pierre Shale; Fox Hills Formation; Hell Creek Formation; sedimentation history; sedimentation rates; paleontology; biostratigraphy


Pierre Shale; Cretaceous; Sharon Springs Member; Mitton Member; correlation; stratigraphy


lignite; aquifers; physiography; Mercer County; structure; stratigraphy; geologic map; geologic history; geomorphology; economic geology; surface water; water quality; groundwater; well data; water levels; water chemistry; groundwater movement; effect of mining


reservoir silting; Missouri River Basin; sedimentation rates; watershed management; erosion control


Williston Basin; Devonian; Mississippian; stratigraphy; geologic history; carbonates


Precambrian; geological ages; radiometric ages; North Dakota

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Williston Basin; potash; geology; isopach map; prairie evaporite; Devonian; mineralogy; well data; production; economics; utilization; mineral resources


Williston Basin; lignite; petroleum; natural gas; salts; potash; water; clays; sulphur; sodium sulfate; leonardite; natural resources


history; surveys; mineralogy; Mandan, ND


aquifers; glacial aquifers; groundwater resources; water properties; groundwater movement


Tyler Formation; Pennsylvanian; paleoecology; paleontology; Billings County; Golden Valley County; McKenzie County; Slope County; Stark County; drill cores; conodonts; Brachiopoda; Mollusca; Bivalvia; Ostracoda; biostratigraphy; fossilization; new taxa


Tyler Formation; thickness; lithology; sedimentary structures; paleontology; paleogeologic map; paleoecology; species list; depositional environment


surficial geology; sedimentary petrology; Pleistocene; till; clastic sediments; properties; hydrogeology; hydrochemical properties; porosity; groundwater; fractures; hydraulic fracturing; geochemistry; genesis; eastern North Dakota


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Hell Creek Formation; Cretaceous; concretions; Slope County; Bowman County; stratigraphy; mineralogy; classification; clay mineralogy; genetic models


Burleigh County; geology; engineering; geology; land use


Burleigh County; Bismarck; Morton County; Mandan; geology; natural resources; sand; gravel; clay; water resources; groundwater; aquifers; Cretaceous; Pleistocene; land use; engineering geology; waste disposal; sewage; landfills; test wells; well logs

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lignite; deposits; mines; utilization; production


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concretions; Cretaceous; Hell Creek Formation; sedimentary structures


water levels; water quality; water wells; environmental geology; groundwater


lithology; groundwater movement; land reclamation


Indian Head Mine; Mercer County; reclamation; slumping; piping; water flow; collapse features


stratigraphic nomenclature; history; Cambrian; Ordovician; Silurian; Devonian; Mississippian; Pennsylvanian; Permian; Triassic; Jurassic; Cretaceous; Tertiary; bibliographies; type sections; geologic history


lignite; uses; coal gasification; carbonization; synthetic liquid fuels


lignite; mining; technology; utilization; engineering


lignite; reserves; chemical properties; physical properties; sulphur; coal mining; production; mineral ownership; utilization; power plants; coal gasification; reclamation; legal aspects; water supply

- prairie evaporite; Devonian; sodium sulfate; groundwater movement; drainage patterns; preglacial drainage; lake deposits; paleohydrologic cycle; northwestern North Dakota


- Tongue River Formation; Paleocene; Ward County; Ostracods; paleontology; Tertiary


- Sheridan County; glacial geology; geologic map; Missouri Coteau; glacial landforms; geomorphology; glacial features; glacial deposits; bedrock topography; stratigraphy; lithology; Cannonball Formation; paleontology; glacial history; economic geology; water resources


- petroleum; drilling; production


- Cedar Creek Anticline; history; structural geology; stratigraphy; reservoirs; oil; gas; Cedar Creek Gas Field; production; reserves


- lignite; mining; land reclamation; revegetation


- energy; demand; lignite; coal development; environment; reclamation; legislation; costs


- lignite; reserves; environmental legislation; rehabilitation regulations; Colorado; Montana; New Mexico; North Dakota; South Dakota; Washington; Wyoming


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geomorphology; badlands


lignite; uranium; Williston Basin; Billings County; stratigraphy; Tertiary; Paleocene; Fort Union Formation; ore deposits; mineralogy; analyses; texture; ore localization; characteristics; origin of uranium; reserves; production


Charles Formation; cyclic; deposition; cross sections; cores


Williston Basin; Mississippian; Pennsylvanian; stratigraphic nomenclature; stratigraphic correlations; Alberta; Montana; paleontology

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glacial Lake Agassiz; glacial history; beaches; deltas; drainage patterns; eskers; sloughs; glacial deposits; lithology; Precambrian; Canadian Shield; bedrock; stratigraphy; soils


Recent; alluvium; Jones Creek; radiocarbon dates; Billings County; gully erosion; stratigraphy; climatic changes; geomorphology

fluvial sediments; Billings County; McKenzie County; Mountrail County; Little Missouri River Basin; channel erosion; channel morphology; alluvium


Little Missouri River channel; channel erosion; channel morphology; fluvial sediment; erosion; piping


groundwater movement; Little Missouri River; streamflow; seepage; hydrogeology; well data; groundwater resources

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Williston Basin; oil fields; geology; stratigraphy; structural geology; exploration; drilling; oil wells; production; oil reservoirs; oil analyses

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Mississippian; algal reefs; oil production


Williston Basin; Mississippian; Ratcliffe beds; Charles Formation; oil fields; structure; stratigraphy; algal reefs; tectonics


Williston Basin; exploration; history; geologic history; oil and gas; oil reservoirs; structure contour maps


oil and gas production; new oil fields


oil and gas; production; exploration; drilling; oil fields; oil wells

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  germanium; uranium; sulfur; peat; gold; manganese; surface geologic map of southwestern North Dakota

  Divide County; geologic map; landform map; bedrock topographic map; stratigraphy; Paleozoic; Mesozoic; Cretaceous; Cenozoic; structural geology; glacial geology; glacial drift; glacial till; paleontology; glacial history; glacial features; economic geology; salts; petroleum; lignite; sodium sulfate

  Grand Forks County; geologic map; landform map; bedrock topographic map; bedrock geologic map; drainage patterns (geologic); cross sections; geomorphology; stratigraphy; Precambrian; Ordovician; Jurassic; Cretaceous; paleontology; preglacial drainage; glacial stratigraphy; glacial drift; glacial till; glacial history; glacial features; glacial Lake Agassiz; Holocene deposits; economic geology; sand and gravel; water; petroleum; cement rock; limestone; clay

  map (observed vertical magnetic intensity); Burke County; magnetic studies

  Divide County; Burke County; Williams County; structural geology; methodology; mapping; gravity studies

  lignite; reserves; Tongue River Formation; Paleocene; production

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earth currents; telluric currents; magnetometry

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well logs; lignite


Paleocene; Fort Union Group; silicified peat; Williston Basin; Morton County; McKenzie County; Billings County; Bowman County; Stark County; Oliver County; paleobotany; fossil localities


Fort Berthold Indian Reservation; geography; topography; geology; geologic map; stratigraphy; economic geology; petroleum; mineral resources; natural gas; lignite; salt deposits; gravel and sand deposits; clinker (scoria) deposits; water resources; clay deposits; mineral industry; lignite reserves; well data; measured sections; analysis of clay samples


Turtle Mountain Indian Reservation; geography; geology; mineral resources; sand and gravel; clay deposits; oil and gas; well data; water resources; analyses of clay deposits


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stratigraphy; lignite; analysis; heats of combustion; composition


uranium; lignite; mining; potential


Madison Limestone; Minnelusa Formation; Pennsylvanian; Mississippian; Permian; geophysical logs; structure-contour map; porosity; lithology; aquifers; hydrogeology; groundwater


Madison Formation; Bottineau interval; thickness; facies; depositional environments; bioherms; paleoenvironments; sedimentation; structure


Williston Basin; Madison Formation; Lodgepole Formation; structure; stratigraphy; isopach map; structure contour map; facies; depositional environments; diagenesis; biologic diagenesis; compaction; cementation; sedimentary structures; neomorphism; solution; fracturing; replacement; mineralogy; dolomitization; lithification; petroleum potential; well data; lithology; bioherms; diageneric processes; diageneric features


Red River Valley; Lake Winnipeg; Pembina Mountain; early surveys; geology; geomorphology; geologic map

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Grand River; water chemistry; sedimentation; streamflow; fluvial sediments


Tongue River Formation; Sentinel Butte Formation; Paleocene; stratigraphy; lithostratigraphy; sedimentary rocks; Cannonball Formation; clastic rocks; lignite; measured sections; cross sections; paleoenvironment; borehole data; Tongue River-Sentinel Butte contact


strip mining; lignite; economics; environmental effects; social impact; reclamation; costs


Stutsman County; glacial features; glacial moraines; mapping; classification


Golden Valley Formation; stratigraphy; Tertiary; Fort Union Formation; Tongue River Member; Sentinel Butte Member; lithology; type section; clay mineralogy; sands; concretions; Hebron Member; Dickinson Member; sedimentary structures; White River Group; paleobotany; paleontology; new species; depositional environments; tectonics; geologic history; geologic map; cross sections


Golden Valley Formation; Williston Basin; North Dakota; lithology; paleontology; Paleocene; Eocene


Golden Valley Formation; Tertiary; Williston Basin; stratigraphy; paleontology; depositional environments; geologic history


stratigraphy; lithology; paleobotany; Williston Basin; Fort Union Formation; Tongue River Member; Sentinel Butte Member; geologic map; new species; stratigraphic correlation; paleoenvironments; measured sections; bibliography; Golden Valley Formation; paleontology; vertebrate paleontology; invertebrate paleontology; geologic history


Tullock Formation; Paleocene; Fort Union Group; Slope County; stratigraphy; nomenclature; lithology; depositional environments; measured sections; cross sections


sedimentary rocks; chemical analyses; Fort Union Formation; Tongue River Member; Golden Valley Formation; Cannonball Member; Benton Shale; Niobrara Formation; Pierre Shale; glacial drift; White River Formation; Hell Creek Formation; silica; carbonates; clays; manganese; coal


Madison Formation; Tilston interval; paleoenvironments; petroleum potential

Madison Formation; Mississippian; Osagian; carbonates; evaporites; Tilston interval; petroleum; production; structure; Williston Basin; well logs; isopach map; stratigraphy; nomenclature; log characteristics; facies analyses; cross sections; paleoenvironments; lithology; paleontology; paleogeography; petroleum potential; paleogeomorphic trap; wedgeout trap; structural closure trap; updip facies change; porosity development; core descriptions; well sample description; thin section description

Fort Union Formation; strip mining; spoil piles; weathering; hazards; toxic effects; Montana; North Dakota; Saskatchewan; mineral composition

Fort Union Formation; strip mining; spoil piles; hazards; weathering; geochemistry; trace elements

glacial Lake Agassiz; clays; expansive clays; engineering; analyses


Quaternary; lithostratigraphy; sediments; correlation; nomenclature; clastic sediments; composition; grain size; Dahlen Formation; Gardar Formation; Hansboro Formation; Vang Formation; Tiber Formation; Cando Formation; Pleistocene; glacial history

glacial sediments; Falconer Formation; Dahlen Formation; Gardar Formation; Pleistocene; Quaternary; lithostratigraphy; composition; textures; parent materials; deposition; glaciation

stratigraphy; structure; groundwater flow; waste disposal; aquifers; lithofacies; lithology; salinity; water analyses


stratigraphy; nomenclature; isopach map; Devonian; paleoenvironments; lithology; paleontology; sedimentation; depositional history


Cedar Creek Anticline; natural gas; discovery well; reservoir rock; reservoir data; production

HOLLAND, F. D., JR., see also Chinburg, Wayne, and Holland, F. D., Jr., 1966.


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history; North Dakota; Geology Department


biography; Arthur Gray Leonard

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vertebrate paleontology; Hell Creek Formation; Slope County; dinosaurs; Cretaceous


paleontology; Cretaceous; Emmons County; Fox Hills Formation; evolution; phylogeny; taxonomy; morphology; paleoecology; estuaries; new taxa; crabs


echinoderms; Cretaceous; Pierre Shale; Fox Hills Formation; paleontology


Cannonball Formation; Paleocene; lobsters; new species; new genus; paleontology; nephropsidae


Fox Hills Formation; Cretaceous; echinoids; paleontology; new species


paleontology; bibliography

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McLean County; Grant County; Morton County; Fort Union Group; Hell Creek Formation; Ludow Formation; Cannonball Formation; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation; geology; fossil localities; paleontology; mammals; paleoecology; new species; Paleocene; biostratigraphy

McLean County; Grant County; Morton County; Fort Union Group; Hell Creek Formation; Ludlow Formation; Cannonball Formation; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation; geology; fossil localities; paleontology; mammals; paleoecology; new species; Paleocene; biostratigraphy


vertebrate paleontology; Tongue River Formation; Fort Union Formation; Grant County; North Dakota; South Dakota; Wyoming; Montana; new taxa; mammals; Tertiary; Paleocene


Saskatchewan; Montana; North Dakota; earthquakes; Williston Basin; faults; plate tectonics; lineations


glacial map; till analyses; geomorphology; geology; Tertiary; Fort Union Formation; Golden Valley Formation; White River Formation; Nimrod Gravel; Flaxville Gravel; stratigraphy; structure; Quaternary; stratigraphy; Cartwright Gravel; Crane Creek Gravel; lithology; glacial deposits; geologic age determination; glacial drift; terraces; eolian deposits; geologic history; drainage changes


till; Williston area; glacial deposits; northwestern North Dakota


Standing Rock Indian Reservation; history; geography; geology; geologic map; mineral resources; mineral industry; sand and gravel; gem stones; stone; clay deposits; lignite; clinker (scoria) deposits; stratigraphy; lithology; manganese-iron concretions; uranium; oil and gas; terraces


- soils; distribution; morphology; genesis; classification; utilization; management; air photos; soil maps


- volcanic ash; chemical analyses; waste water treatment; lignite ash

HUNT, JOHN B., see also Anderson, Sidney B., and Hunt, John B., 1964.


- Bottineau County; Renville County; Rolette County; Ward County; McHenry County; Pierce County; gravity studies; maps


- McHenry County; Pierce County; McLean County; Sheridan County; gravity studies; maps

HUNTER, J. D., See Lane, B. B., Ashmore, H. T., and Hunter, J. D., 1967.


- groundwater resources; aquifers; water quality; water supply; well data; hydrologic data; chemical analyses


- Ramsey County; aquifer; lithology; water quality

- Ramsey County; water wells; well logs; well records; water levels; water chemistry


- groundwater; availability; quality; bedrock geology; glacial drift; aquifers; Lake Agassiz; geochemistry


- artesian aquifers; Stutsman County; Spiritwood aquifer; glacial aquifers


- hydrogeology; water analyses; water pollution; water supply; ground-water


- Stutsman County; groundwater; water wells; well logs; well records; chemical analyses


- Stutsman County; groundwater; glacial aquifers; water properties; water quality; dissolved solids; glacial geology; Dakota Sandstone


- oil reservoirs; Mississippian; carbonates; stratigraphic traps; porosity; Williston Basin; Kuwait; Alberta

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- Tongue River Formation; Paleocene; sediments; depositional environments; lignite; Tertiary

- sloughs; Quaternary; Stutsman County; petrography; mineralogy; paleontology

- Tongue River Formation; Paleocene; lithology; sedimentology; stratigraphy; paleoenvironments

- Tongue River Formation; Paleocene; sands; sedimentary structures; concretions

- Tongue River Formation; Paleocene; lithology; sedimentary structures; depositional environments

- Tongue River Formation; sedimentary structures; concretions; Paleocene

- Tongue River Formation; Paleocene; concretions; sedimentary structures; sands

- Tongue River Formation; sand; mineralogy; sediment sources

groundwater; aquifers; sedimentology; lignite; Tongue River Formation; Tertiary


sand beds; point bars; levees; flood basins; depositional environments; alluvial plains; stream deposits


Paleocene; Tongue River Formation; Sentinel Butte Formation; weathering; sandstone; physical properties; lithology; mineralogy; clay minerals; X ray diffraction studies


Fort Union Group; Paleocene; Tertiary; geologic history; Tongue River Formation; Sentinel Butte Formation; lithology; stratigraphy; sandstone; siltstone; claystone; lignite; depositional environments; sedimentary structures; uranium; economic geology; cross sections


sand beds; point bars; levees; flood basins; depositional environments; alluvial plains; stream deposits


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hydrogeology; bedrock geology; glacial geology; water quality; artesian flow; aquifers; maps


Williston Basin; Interlake Group; Silurian; erosion; sedimentary history; petroleum geology


geologic age; lithology; chert layer; paleontology; stratigraphy; mineralogy; geochemistry; silica; coprolites; preservation; paleoecology; paleobotany; vertebrate paleontology; crocodilians; bibliography; White River Group
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hydrogeology; water resources; water analyses; aquifers; Tertiary; Tongue River Formation; well data

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potholes; Missouri Coteau; water table; hydrogeology; sloughs

hydrogeology; geologic maps; aquifers; Tertiary; Tongue River Formation; glacial aquifers; water quality; well data; Des Lacs River

hydrogeology; Grand Forks County; Traill County; groundwater; Lake Agassiz deposits; water analyses; well data

Traill County; aquifers; water wells; well logs; water levels; chemical analyses; water quality

Lake Agassiz deposits; hydrogeology; water analyses; water resources; well data

hydrogeology; water analyses; glacial aquifers; Lake Agassiz deposits; Goose River; well data

groundwater; hydrologic data; aquifer characteristics; water wells; hydrogeology; water sources; aquifers; water table; water levels; water yields; water quality; chemical analyses; precipitation (atmospheric); groundwater resources


Golden Valley Formation; Eocene; geologic age determination; stratigraphy; vertebrate paleontology


Golden Valley Formation; Eocene; vertebrate paleontology; paleoenvironments


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Devils Lake (city); municipal water supply; Dakota Sandstone; glacial aquifers; Warwick aquifer; water quality; chemical analyses


Burke County; lineaments; aerial photographs; structure map; structural geology; fractures (geologic)


Badlands; geomorphology; general history


Sheyenne River; physiography; geology; climate; bedrock topography; geologic map; soils; water quality; vegetation; wildlife; land use; archaeology; environmental effects; bank erosion; recreation; sedimentation; biology census

Madison Formation; Mississippian; Midale subinterval; Ratcliffe interval; Williston Basin; stratigraphic nomenclature; structural geology; stratigraphy; lithology; depositional environments; diagenesis; dolomitization; oil fields; oil wells; well logs; structure contour maps; cross sections


Sentinel Butte Formation; Paleocene; stratigraphy; lithology; sedimentary structures; sedimentology; depositional environments; sand beds; silt beds; clay beds; lignite


Sentinel Butte Formation; Paleocene; stream deposits; depositional environments


glacial history; beaches; deltas; geomorphology; Lake Agassiz


Devils Lake Basin; geochemistry; water chemistry; saline lakes


JOOS, LLOYD L., See Thompson, Donald G., and Joos, Lloyd L., 1975.


Williston Basin; Fort Union coal; water resources; power plants; social impact; strip mining; mineral rights; surface rights; reclamation; planning; North Dakota; Montana; Wyoming; environmental effects; legal aspects; government agencies; Indian reservations; Indian rights

Towner County; groundwater resources; hydrogeology; well logs; water wells; water analyses


Richardton Meteorite; meteorites


Golden Valley Formation; Bear Den Member; paleosol; Mercer County


X ray diffraction analyses; clay mineralogy; lignites; mineralogy


faults; lignite; Sentinel Butte Formation; X ray diffraction study; electron microprobe analyses; mineralogy


lignite; geochemistry; mineralogy; Sentinel Butte Formation; X ray diffraction study; electron microprobe analysis


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structure geology map; physiographic map; slope maps; landform map; physiography; geology; lithology; structural geology; geologic history; sedimentary rocks


Glacial Lake Regina; drainage; meltwater channel; Souris channel; channel deposits; history


lignite; reserves; airphotos


potholes; artesian aquifers; Barnes County; Stutsman County; groundwater

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Barnes County; groundwater; water wells; well records; well logs; water chemistry; water levels

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groundwater; aquifer systems; water quality; Dakota Sandstone; map-groundwater availability; Spiritwood aquifer; glacial aquifers; Pierre Shale; Wimbledon aquifer; Bantel aquifer; Valley City aquifer; Sand Prairie aquifer; Stoney Slough aquifer; water utilization


Sheyenne River; municipal water supply; water wells; aquifer systems; water quality; Barnes County; groundwater; chemical analyses


Grand Forks County; groundwater; water quality; water wells; well logs; water levels; well records; water chemistry

hydrogeology; Dickey County; Grand Forks County; Traill County; Walsh County; Cass County; Richland County; Dakota Sandstone; dissolved solids; water quality


Barnes County; glacial till; analyses; lithology; chemical analyses


gologic map; bedrock map; geomorphology; stratigraphy; Pre-Mesozoic; Mesozoic; Dakota Group; Colorado Group; Montana Group; paleontology; bedrock topography; glacial drift; Sheyenne Valley drift; type section; Millarton drift; Eldridge drift; Buchanan drift; Kensel-Oakes drift; Cooperstown drift; Luverne drift; glacial Lake Lanona; glacial features; alluvial deposits; geologic history


fluvial geology; diversion; Pleistocene; glacial geology; Knife River-preglacial; Cannonball River-preglacial; preglacial drainage; buried channels


Grand Forks County; groundwater availability map; cross sections; water quality; groundwater resources; hydrogeology; Ordovician aquifers; Dakota aquifer; Pierre aquifer; glacial aquifers; Elk Valley aquifer; Inkster aquifer; Emerado aquifer; Grand Forks aquifer; Thompson aquifer; Glacial Lake Agassiz; water utilization


Devonian; paleogeographic maps; sedimentary rocks; carbonates; geologic history


Williston Basin; lineaments; structural geology; oil reservoirs; oil fields

Mission Canyon Formation; Bottineau County; oil fields; West Roth Field; Boundary Creek Field; structure maps; stratigraphy; Mississippian; structural geology; reserves


Winnipegosis Formation; Devonian; structure maps; oil and gas; stratigraphy; isopach maps; facies (sedimentary); sedimentology; facies map; carbonates


Cass County; water wells; well logs; well records; water quality; water levels; groundwater


geologic map; bedrock topographic map; cross sections; Cass County; stratigraphy; Precambrian; Paleozoic; Cretaceous; Dakota Sandstone; Graneros Shale; Greenhorn Formation; geologic history; Pleistocene; glacial drift; glacial till; Lake Agassiz; glacial features


Cass County; hydrogeology; groundwater resources; aquifer systems; groundwater availability map; water levels; glacial aquifers; water quality; Fargo aquifer; West Fargo aquifer; Page aquifer; Bantel aquifer; Sheyenne Delta aquifer; Tower City aquifer; Dakota Sandstone


water wells; hydrogeology; McLean County; hydrologic properties; water levels; water chemistry; electric well logging; geohydrologic units; aquifer characteristics; springs; water users; groundwater movement

groundwater resources; water supply; water quality; well data; chemical analyses; McLean County


Fox Hills aquifer; groundwater flow


groundwater resources; glacial drift; hydrogeology; aquifer characteristics; water supply; water quality


Dunn County; lignite aquifers; groundwater; yields


Dunn County; water wells; well logs; well records; water levels; water chemistry


hydrogeology; groundwater; aquifers; water chemistry; irrigation


well data; water level; well logs; water chemistry; water temperature; water quality; surface water; groundwater


aquifers; Fox Hills Formation; Hell Creek Formation; Cannonball Formation; Ludlow Formation; Tongue River Formation; Sentinel Butte Formation; glacial aquifers; water chemistry; groundwater utilization


Linton Member; Fox Hills Formation; Cretaceous; Emmons County; Sioux County; type section

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map; geomorphology; physiographic provinces; North Dakota; topography


guidebook; strip mining; lignite power plants; history


petroleum; exploration; production; pipeline; economics; refineries; natural gas; Montana; North Dakota; Williston Basin


leonardite; production; analyses; properties; Loch Ness Monster


stratigraphy; nomenclature; correlations; anhydrites; lithology; structural deformation; dolomitization; porosity; sedimentation cycles; petroleum; production; Red River Formation; Ordovician


Madison Group; hydrology; aquifers; groundwater; flow regime


lignite; Williston Basin; palynology; uranium

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lignite; Williston Basin; palynology; uranium


Mountrail County; Moe Site; geologic map; stratigraphy; Paleocene; Pleistocene; glacial deposits; Oahe Formation; lithology; geologic age; glacial history; radiocarbon dates; Holocene history; paleoclimate


Williston Basin; Devonian; oil reservoirs; oil fields; exploration; geology; Elk Point Group; Manitoba Group; Saskatchewan Group; Qu'Appelle Group; lithology; stratigraphy


Williston Basin; Ordovician; oil fields; geology; lithology


Williston Basin; Winnipegosis Formation; Devonian; oil reservoirs; Elk Point Salt Basin; Ordovician; stratigraphy; lithology


Williston Basin; Mississippian; oil fields; McKenzie County; Bowman County


petroleum; exploration; production


Dunn County; lignite; palynology; Golden Valley Formation; Sentinel Butte Member


lignite; Paleocene; Eocene; palynology; classification; nomenclature; paleontology

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lignite; Billings County; Tongue River Member; Paleocene; methodology; palynology; petrography; maceration


lignite; sand; gravel; groundwater; limestone; clay; volcanic ash; evaporites; oil and gas


Wells County; glacial geologic map; physiographic provinces; glacial features; stratigraphy; Pierre Formation; glacial drift; Paleocene; radiocarbon dates; glacial till; analyses; lithology; paleontology; economic geology; sand and gravel; groundwater; soils; geologic history; glacial history


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Williston Basin; structural geology; stratigraphy; Devonian; Mississippian; Englewood Formation; lithology; Bakken Formation; depositional environments; paleontology; stratigraphic correlations; well logs; isopach map; cross sections


Stratigraphy; Mississippian; Williston Basin; Bakken Formation; Englewood Formation; structural geology; lithology; paleontology; type sections; isopach maps; reference sections; depositional environments; cross sections


Burleigh County; glacial geology; geomorphology; bedrock geology; geologic history


Burleigh County; glacial drift; Pleistocene; geomorphology; nomenclature change; sheet moraine


Burleigh County; geomorphology; glacial features; Missouri Coteau; glacial deposits; radiocarbon dates


Grand Forks County; Walsh County; Dahlen Esker; glacial features; lithology

Burleigh County; geologic map; bedrock geologic map; bedrock topographic map; geomorphology; glacial geology; glacial features; stratigraphy; Precambrian; Paleozoic; Mesozoic; Cretaceous; Pierre Formation; Fox Hills Formation; Hell Creek Formation; Tertiary; Fort Union Group; Ludlow Formation; Cannonball Formation; Tongue River Formation; lithology; glacial drift; paleontology; radiocarbon dates; drainage history; glacial history; economic geology; well records


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Dickinson Field; South Heart Field; Green River Field; petroleum; production; shoreline depositional environments; paleoenvironments; reservoir rocks; stratigraphic traps; sandstone; porosity


Stark County; petroleum; sedimentary structures; shallow-water environment; reservoir properties; South Heart Field; Green River Field; paleosols


lignite occurrence; coal mines; strip mining; lignite reserves; coal production, 1951-1962; lignite reserves—estimated original North Dakota reserves


bibliographies; publications; North Dakota Geological Survey; U.S. Geological Survey


lignite; resources; Grant County; Hettinger County; Morton County; Stark County; natural resources


coal classification; properties; lignite; geologic formations; uses; production; mining; fossil fuels


lignite; resources; reserves

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  paleobotany; Cretaceous; amber; Alaska; lignite; North Dakota

  Bottineau County; McHenry County; Ward County; Renville County; Williston Basin; Devonian; Prairie Salt; structure; Nisku Formation; Winnipegosis Formation; geologic cross section; geophysical studies

  oil production; sulfur production; natural gas production

  Divide County; Burke County; Renville County; Bottineau County; Ward County; McHenry County; hydrogeology; glacial aquifers; Souris River; Des Lac River; water analyses; Cannonball Formation; Tongue River Formation; Ludlow Formation; aquifers; Tertiary; Fort Union Group; artesian wells

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  Fort Union Formation; lignite; analyses; composition; stratigraphy; structure contour maps; isopach maps

  Williston Basin; maps; computers; land leases; oil and gas


bank stability; landslides; engineering properties; river banks; bridge sites; flooding; drainage; glacial Lake Agassiz; soil; lake deposits


Cretaceous-Tertiary boundary; stratigraphy; Fox Hills Formation; Lance Formation; Fort Union Formation; Hell Creek Formation; Cannonball Member; Tongue River Member; new taxa; type areas; palynological study; methods; paleontology; correlations; geologic ages; taxonomy


Williston Basin; salt deposits; Ordovician; Devonian; Mississippian; Permian; Triassic; Jurassic; maps


Triceratops; vertebrate paleontology; reconstruction


Souris River Valley; geology; geologic map; geomorphology; stratigraphy; well logs; Cretaceous; Pierre Shale; Fox Hills Sandstone; Hell Creek Formation; Cannonball Member; Tongue River Member; Fort Union Formation; Tertiary; lithology; paleontology; glacial drift; glacial features; glacial deposits; Max moraine; till; glaciofluvial deposits; terraces (geologic); glacial Lake Souris; landslides; glacial geology; geologic history; structural geology; drainage systems; economic geology; engineering geology


glacial geology; geomorphology; preglacial drainage; glacial history; radiocarbon dates

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Stark County; Mercer County; Dunn County; palynology


Golden Valley Formation; Paleocene; Eocene; Tertiary; paleontology;

Stark County; Mercer County; Dunn County; palynology


paleontology


Mission Canyon Formation; Williston Basin; McKenzie County;

Mississippian; bioherm facies; petroleum reservoirs


Fort Union Formation; Tongue River Member; lignite; structure;

stratigraphy; maps


lignite; topography; stratigraphy; structural geology; Fort Union coal beds; analyses; drill-hole data; isopach maps


aquifer testing; Stark County; water supply; groundwater

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Williston Basin; Cambrian; Deadwood Formation; lithology; paleontology; paleoecology; brachiopods; trilobites; graptolites

Williston Basin; Deadwood Formation; Ordovician; trilobites; paleontology; lithology; Montana; graptolites; gastropods; brachiopods; echinoderms


Williston Basin; Deadwood Formation; Ordovician; lithology; paleontology; paleoecology; trilobites; gastropods; conodonts; graptolites; brachiopods


Williston Basin; Cambrian; stratigraphy; Ordovician; lithology; paleontology; Deadwood Formation; facies (sedimentary); stratigraphic correlations; brachiopods; trilobites; graptolites; isopach map; paleogeography; geologic history; paleogeologic maps; structural geology; petroleum


Fort Union Group; Cannonball Formation; Tongue River Formation; Paleocene


Paleozoic; sedimentation; tectonic history; structural geology; stratigraphy; Williston Basin; correlation charts; depositional environments; paleogeography; paleoenvironments


glacial Lake Agassiz; Campbell Phase; lakeshore; Quaternary


Niobrara Formation; Cretaceous; micropaleontology; shale; lithology; methodology; stratigraphy; foraminifera; new species; paleoecology


Heart River Basin; Missouri River Basin; water chemistry; water quality; hydrogeology; streamflow; irrigation; sedimentation; geologic map; geology; stratigraphy; fluvial sediments; sediment source; erosion


Elk Point Basin; Devonian; depositional environments; diagenesis; evaporites; geologic history


Fort Union Group; Tongue River Formation; Sentinel Butte Formation; clay mineralogy; heavy mineral analyses; sedimentology; sedimentary structures; lithofacies; petrology; sedimentation; depositional history; tectonics; geochemical environments; computer program


Mississippian; Mission Canyon Formation; oil fields; Williston Basin; facies (sedimentary); depositional environments


Williston Basin; carbonates; Mississippian; Mission Canyon Formation


geography; physiography; regional geology; tectonics; geophysics; stratigraphy; historical geology; economic geology; maps


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Cretaceous; volcanic ash; Emmons County


clays; classification; production; deposits; kaolinite; bentonite; Fuller's earth


Cretaceous; volcanic ash; Fox Hills Formation; Emmons County; Morton County; Sioux County; uses


Williston Basin; Newburg Oil Field; South Westhope Oil Field; history; stratigraphy; Spearfish Formation; Ratcliffe interval; Mississippian; lithology; depositional environments; structural geology; geologic history; oil reservoirs; production; exploration; oil well records; structure contour maps; isopach maps; cross sections; well logs


Bottineau County; Williston Basin; Newburg Oil Field; South Westhope Oil Field; stratigraphy; Charles Formation; Mississippian; Spearfish Formation; Triassic; cross sections; structure contour map; isopach map; Madison subcrop map; stratigraphic trap

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Clear Creek Field; Charlson Field; Nesson Anticline; isopach maps; structure maps; structural geology; stratigraphy; Minnelusa Formation; Amsden Formation; sandstone; nitrogen; gas reservoirs; Pennsylvanian


Williston Basin; Madison Formation; Ratcliffe interval; Flat Lake Oil Field; lithology; well logs; well cores; porosity; carbonates; oil reservoirs


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Williston Basin; Pennsylvanian; Permian; Minnelusa Formation; Opechee Shale; Minnekahta Limestone; Spearfish Formation; Amsden Group; geologic history; stratigraphic nomenclature; paleogeologic maps; lithofacies maps; tectonics

- Permian; Pennsylvanian; stratigraphy; paleogeologic map; paleo­
tectonics; lithology; facies (sedimentary); depositional environ­
ments; thickness of formations; Minnelusa Formation; Opechee Shale;
Minnekahta Limestone; Spearfish Formation; Triassic; Pine Salt;
Jurassic


- bibliographies; Lake Agassiz; Pleistocene; Quaternary; glacial
gеology; paleontology; ecology. Note: The book contains numerous
papers. Those pertaining to North Dakota are listed under individual
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- paleoecology; Sheyenne Delta; Seminary site; Cass County; Mirror
Pool site; Ransom County; palynology; Quaternary; pollen; peat


- potholes; paleoecology; Missouri Coteau; Stutsman County; Woodworth
Pond; palynology; Pleistocene; Holocene


- palynology; Quaternary; North Dakota; South Dakota; Montana;
Wyoming; vegetation


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petroleum; exploration; production


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Richland County; Williams County; McKenzie County; Dunn County; Madison Formation; petroleum; exploration; production; Little Knife Field; Cedar Creek Field; Tioga Field; MonDak Field; Beaver Lodge Field; natural gas
  Renville County; Deadwood Formation; Cambrian; exploration; production; petroleum

  Richland County; McKenzie County; Montana; North Dakota; petroleum; exploration; production

  petroleum; Madison Group; Paleozoic; Williston Basin; exploration; production; reserves

  Williams County; McKenzie County; petroleum; exploration; production; Tioga Oil Field; Beaver Lodge Field; Charlson Field; Antelope Field

  petroleum; natural gas; production; exploration; Dakota Formation

  Madison Group; Sheridan County; Billings County; McKenzie County; petroleum; exploration; production; reserves

  Grant County; stratigraphy; Fox Hills Formation; Pierre Shale; Cretaceous; Lance Formation; Cannonball Member; Ludlow Member; Tertiary; Fort Union Formation; glacial deposits; fluvial deposits; lithology; geologic history; topography; structural geology; economic geology

  Mississippian; Midale subinterval; carbonates; classification of carbonate rocks; stratigraphic nomenclature; stratigraphy; well logs; lithology; petrography; mineralogy; dolomite; anhydrite; limestone; depositional environments; porosity

  natural gas; Williston Basin; stratigraphy; isopach maps; structural geology; geologic history; production

  geologic maps; bibliographies


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geochemistry; strip mining; impact; Montana; North Dakota; Wyoming; streams; sediments


chemical analyses; sediments; Montana; Wyoming; North Dakota


Fort Union Formation; shale; lignite; spoil piles; hazardous effects; mineralogy


Bakken Formation; Mississippian; Williston Basin; shale; electric resistivity; petroleum; source rocks; properties; reservoir rocks


Mississippian; Bakken Formation; stratigraphy; reservoir properties; geochemical properties; petrophysical properties; source rocks; log interpretation; fracture-reservoirs; tectonics; oil migration; hydrocarbon generation

Tongue River Formation; Billings County; paleontology; paleobotany; Fort Union Group; Tertiary


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geochemistry; data


lignite; stratigraphy; Hell Creek Formation; Fort Union Formation; Golden Valley Formation; structure; composition; reserves


stratigraphy; physiography; lignite; reserves; drill-hole data; structure; chemical analyses


well logs; lignite; Fort Union Group


Griggs County; geologic map; glacial geology; lithology; glacial deposits; glacial features; X-ray diffraction analyses; Spiritwood aquifer; Pierre Shale; topography; geologic history; glacial history; groundwater

Sentinel Butte Formation; bentonite; clay mineralogy


study methods; surface materials; mapping; lithology; stratigraphy; Tertiary; Sentinel Butte Formation; Quaternary; glacial sediments; Pleistocene; geologic history; depositional environments; glacial history; geologic hazards; land use; engineering properties; test-hole data

seismic studies; earth mantle


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sediments; diagenesis; sedimentary structures; Williston Basin; petroleum exploration


potholes; saline lakes; salinity; drainage


lignite; Alabama; Texas; Wyoming; North Dakota; geochemistry; chemical composition

Pliocene; Pleistocene; fish; paleontology; Prophet Mountains site; North Dakota


Missouri River Basin; social aspects; economic aspects; land resources; water resources; water utilization; hydrology; sediment yield; geology; water quality; groundwater; streamflow

lignite; uranium; Williston Basin; mining; Paleocene; Cretaceous; cross sections; technology; geology; mineral industry


potholes; evapotranspiration; dissolved solids; vegetation; alkalinity; groundwater movement


Devils Lake Basin; water levels; water temperature; water chemistry; Stump Lake; trace elements; saline lakes; water budget


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coal; development; environmental effects; water; strip mining; reclamation; biology; social impact; ecology; North Dakota; Montana; Fort Union Coal Field; lignite

Papers that pertain to North Dakota are cited separately by author.


Papers that pertain to North Dakota geology are cited separately by author.


Papers dealing with North Dakota geology are listed under the individual authors.


Papers dealing with North Dakota geology are listed under the individual authors.


moine mineral resources; water resources; petroleum; lignite; conservation


facies (sedimentary); limestone; dolomite; anhydrite; depositional environments; oil reservoirs; porosity; well logs; carbonates; Mississippian


Ludlow Formation; Paleocene; sedimentary structures; sedimentology

Hell Creek Formation; Ludlow Formation; geologic map; Cretaceous; Tertiary; stratigraphic nomenclature; stratigraphy; lithology; sediments; lignites; clays; silts; sandstones; concretions; paleontology; sedimentation; depositional environments; economic geology; uranium


Pembina County; magnetic anomalies; maps


lagoons; glacial Lake Souris; brine disposal; groundwater movement; glacial stratigraphy

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glacial Lake Agassiz; glacial sediment; lake clay; geologic history; groundwater; Grand Forks (city); engineering geology

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mineral industry; sand; gravel; resources; mineral deposits; deposition (sediments); glacial deposits


glacial geologic map; North Dakota; sediments


landfills; groundwater; pollution

lithostratigraphy; petrology; Quaternary; stratigraphic correlations; Quaternary history; postglacial geology; Lake Agassiz; Red River Valley; glacial geology

glacial Lake Agassiz; glacial history; geologic age

groundwater; wells; test holes; Paleocene; stratigraphy; Quaternary; geochemistry


stratigraphy; structure; groundwater; aquifers; groundwater-flow systems; water chemistry; well logs; core samples; test-hole data; Dunn County

lignite; strip mining; geochemistry; groundwater; hydrochemistry; water resources; salinity; pollution

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Dunn County; Sentinel Butte Formation; Golden Valley Formation; Coleharbor Group; Fox Hills Formation; groundwater; glacial geology


glacial Lake Agassiz; glacial stratigraphy; glacial history


Lake Agassiz; Late Wisconsinan; radiocarbon dates; history of events; glacial history; Quaternary


radiocarbon dates; indexes (documentation); North Dakota; geology; archaeology


glacial Lake Souris; glacial history; glacial deposits


Dunn County; McLean County; Oliver County; stratigraphy; groundwater analyses; geochemistry; strip mines; reclamation


lignite; mining; reclamation; planning; soils; groundwater; geology


paleontology; chitinozoa; Williston Basin; Red River Formation; Stony Mountain Formation; Dawson Bay Formation; Ordovician; Devonian


Red River Formation; Stony Mountain Formation; Ordovician; Dawson Bay Formation; Devonian; micropaleontology; chitinozoa; scolecodonts; methodology; paleoecology; diagenesis; stratigraphy; new species; well records

strip mining; lignite; fish and wildlife; wetlands; ponds; revegetation; benefits


McLean County; groundwater; Sentinel Butte Formation; Paleocene; Pleistocene; till; paleoenvironments; stratigraphy; cross sections; lithology; piezometers; methods; geohydrology; hydraulic conductivity; lignite; groundwater flow; water table; water chemistry; mining effects


lignite mining; strip mining; reclamation; Mercer County; Oliver County


Burke County; oil fields; Entry Oil Field; Lignite Oil Field; Woburn Oil Field; Portal Oil Field; Flaxton Oil Field; Rival Oil Field; magnetic anomaly; drilling; production; oil reservoirs; Charles Limestone; Midale Limestone


Precambrian; geologic age; lithology; gravity anomalies; geologic history

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uranium; discovery; exploration


oil fields; Antelope Field; Williston Basin; Bakken Shale; Sanish Pool; oil reservoirs


Williston Basin; Devonian; Three Forks Formation; Sanish Sand; Bakken Formation; Lodgepole Formation; lithology; oil reservoirs; reservoir characteristics; production; fracturing; reservoir performance; Antelope Sanish Pool
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- labor
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groundwater; aquifers; lignite; mining effects; structural geology; tectonic map; stratigraphy; groundwater movement; Fort Union Formation


Hell Creek Formation; stratigraphy; lithology; palynology; paleontology; Cretaceous; Tertiary; Fort Union Group; Montana

Hell Creek Formation; Cretaceous; Tullock Formation; Tertiary; palynology; Montana

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   Fort Union Formation; Sentinel Butte Member; Paleocene; lignite; production; physiography; structure


   Fort Union Formation; stratigraphy; lignite; coal bed names; analyses; drill-hole data; structure contour maps; coal correlation sections; isopach maps

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Red River Valley; glacial sediments; Lake Agassiz deposits; engineering geology; bridges


Fox Hills Formation; Cretaceous; paleontology; paleoecology; oysters; stratigraphy; biostratigraphy; paleoenvironments; taphonomy


salt beds; Powder River Basin; Williston Basin; Permian salt solution; Devonian salt solution; Jurassic salt solution; tectonics; geologic history; structural geology; cross sections; isopach maps; salt solution; oil reservoirs; stratigraphy; oil exploration; oil fields


Red Wing Creek oil field; McKenzie County; Mississippian; oil reservoirs; meteorite crater; Jurassic


Williston Basin; McKenzie County; Mission Canyon Formation; oil fields; Red Wing Creek oil field; Jurassic; Mississippian; meteorite impact structure; structural traps; astroblemes; economic geology; petroleum; production; breccia; shatter cones

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Lake Ashtabula; Sheyenne River; Baldhill Creek; geology; biology; water chemistry; bank erosion; sediment sources; sediment transport; sedimentation; sedimentary structures; mineralogy; lithology; lake sediments


erosion; sedimentation; reservoirs; lacustrine; wave action; density currents

bank erosion; erosion processes; erosion rates; reservoirs; Lake Ashtabula


bank erosion; erosion processes; erosion rates; reservoirs; Lake Ashtabula


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Ward County; glacial features


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till balls; Minot, North Dakota; glacial geology; Ward County


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groundwater resources; aquifer characteristics; water yield; water quality; water wells; hydrologic data; hydrogeology; Renville County; Ward County; Cretaceous aquifers; Tertiary; Fort Union aquifer; Quaternary deposits; glacial aquifers

Ward County; glacial deposits; glacial outwash; till balls; Souris River Valley; glacial diversion channel deposits


groundwater; Ward County; aquifer systems; water wells pumping; computer models


hydrogeology; aquifer systems; hydrologic systems; groundwater availability; lithofacies maps; glacial geology


North Dakota; Souris River Valley; glacial aquifer; lithofacies maps; lithology; aquifer characteristics


Williston Basin; Cedar Creek Anticline; Red River Formation; Ordovician; well logs; oil reservoir; properties; porosity; oil recovery; oil volumes


Williston Basin; salts; Devonian; Winnipegosis Formation; Prairie Formation; Mississippian salts; Madison Group; Charles Formation; isopach maps; structure contour maps; Permian salts; Opechee Formation; Spearfish Formation; Triassic; Jurassic; Pine salt; Dunham salt; thickness; lithology; structural geology

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aquifers; Tertiary; Tongue River Formation; Stark County; geology; water analyses; water resources; well data; hydrogeology


Fort Union shale; Paleocene; nitrogen; Tongue River Formation; Sentinel Butte Formation; geochemistry


soils; distribution; morphology; genesis; classification; utilization; management; airphotos; soil maps


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Pierre Shale; Cretaceous; chemical analyses; geochemistry; methodology

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well data; hydrogeology; well logs; water analyses; water properties; water measurement; maps; groundwater; Burleigh County


groundwater availability; water levels; water wells; aquifer systems; water supply; water measurement; observation wells; ground-water resources


water supply; water wells; groundwater; water utilization; electric well logging; hydrologic data; hydrologic properties; physical properties; chemical analyses; water chemistry; water quality; Benson County; Pierce County

- groundwater resources; water supply; water quality; aquifers; well data; Benson County; Pierce County; glacial aquifers; Cretaceous; Fox Hills Formation; Pierre Shale; Dakota Sandstone


- glacial features; aquifers; Heart River Valley


- aquifers; Hell Creek Formation; Fox Hills Sandstone; Tongue River Formation; Cannonball Formation; lithology; groundwater flow


- stratigraphy; bedrock; Pierre Formation; Fox Hills Formation; glacial deposits; groundwater; water quality; well logs


- glacial aquifers; buried glacial valleys; groundwater flow; water quality; glaciofluvial deposits


- Fox Hills Sandstone; aquifer; potential yield


- groundwater resources; water quality; lithologic logs; water wells; well data; aquifer characteristics; hydrogeology; stream flow; chemical analyses; Grant County; Sioux County


- McHenry County; buried-valley aquifers; water quality; water chemistry


- groundwater; aquifers; Cretaceous; glacial deposits; water quality; water resources; geology; bedrock topography; maps

groundwater hydrology; stratigraphy; water quality; Cretaceous; Fox Hills aquifer; Hell Creek aquifers; Tertiary; Cannonball aquifer; Ludlow aquifer; Tongue River aquifer; Sentinel Butte aquifers; lithology; water levels; glacial aquifers; potential yields; Holocene; alluvial deposit aquifers; geochemistry; groundwater flow; water utilization


hydrogeology; glacial aquifers; well data; water analyses; Benson County; water resources


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Williston Basin; Kibbey Formation; Mississippian; isopach map; well logs; type well; lithofacies map; paleontology; structure; lithology; facies (geologic); depositional environments; anhydrites; limestone; dolomite; geologic history; well data

Williston Basin; Kibbey Formation; Mississippian; stratigraphy; isopach maps; well logs; Ray Member; type section; structural geology; lithology; geologic history; limestone


Kibbey Formation; Williston Basin; Ray Member; limestone; dolomite; anhydrite; textures; facies; depositional history


Mississippian; Kibbey Formation; Ray Member; facies (sedimentary); sedimentary environments; limestone facies map; lithofacies map; isopach map


glacial features; drumlins; Pierce County; geomorphology; orientation; spatial distribution


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North Dakota; geology; aerial photography; geomorphology; remote sensing; field trip guidebook

stratigraphy; Pierre Shale; glacial deposits; Quaternary; Coleharbor Formation; lithology; Stump Lake; mollusks; glacial history; geologic history; bedrock topography; glacial features; glacial Lake Bergen; Sheyenne River Channel; Devils Lake; economic geology; well log data; lithostratigraphic map; geologic map


groundwater resources; Minnesota; Montana; North Dakota; South Dakota; aquifers; groundwater quality; saline water; utilization


Fort Union Formation; Cannonball Member; Ludlow Member; Tongue River Member; Sentinel Butte Member; stratigraphy; structure; depositional environments; maps; cross sections; well logs; lignite; Tertiary


Fort Union Formation; Tongue River Member; Cannonball Member; Ludlow Member; Sentinel Butte Member; Paleocene; lignite; reserves; paleoenvironments; sedimentation


Fort Union Formation; lignite; reserves; structural geology; stratigraphy; well logs; correlations; depositional environments; isopach maps; structure maps; Tertiary; Cannonball Member; Ludlow Member; Tongue River Member; Sentinel Butte Member


groundwater resources; mining impact


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glacial feature; Grand Forks County; glacial Lake Agassiz; esker; photograph
Missouri Coteau; glacial geology; glacial features; topography; dead-ice features; modern analog; Martin River Glacier, Alaska

maps; land utilization; computer interpretation; remote sensing; methods

maps; land utilization; computer interpretation; remote sensing; methods

Alaska; North Dakota; Pleistocene; modern analog; glacial geology

water quality; primary productivity; physical, chemical, and biological properties; Lake Ashtabula; reservoirs; Sheyenne River; aquatic life

petroleum; development; exploration; Cambrian; Deadwood Formation; North Dakota; production

petroleum; production; exploration

Newcastle Formation; Cretaceous; isopach maps; structural maps; cross sections; stratigraphy; structural geology; Williston Basin; Cedar Creek Anticline; Nesson Anticline; Billings-Stark structural nose; Cavalier high; Rolette-Towner nose; depositional environments; economic geology; oil fields; oil wells; well data

Newcastle Formation; Cretaceous; Williston Basin; isopach map; structure map; cross sections; stratigraphic nomenclature; stratigraphy; lithology; well logs; stratigraphic correlation; structural geology; Cedar Creek Anticline; Nesson Anticline; Billings-Stark structural nose; Cavalier high; Rolette-Towner nose; depositional environments; economic geology; petroleum

Cretaceous; Paleocene; stratigraphy; cross sections; correlation charts


Cretaceous; stratigraphic nomenclature


stratigraphy; Cretaceous; Paleocene; Alberta; Montana; North Dakota; South Dakota


Cretaceous; lithology; stratigraphy; paleontology; correlations; well logs


Western North Dakota; natural gas; Cretaceous; exploration; Canada; "biogenic gas"


Montana; North Dakota; South Dakota; Wyoming; Cretaceous; natural gas reservoirs; reserves


stratigraphy; Cretaceous; structural geology; natural gas; origin; accumulation; potential; reservoirs; lithofacies


Devonian; Duperow Formation; Foraminifera


Duperow Formation; Devonian; micropaleontology; Williams County; McKenzie County; Foraminifera

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Precambrian; magnetic anomalies; Pembina County; lithology; mineralogy


potash; North Dakota; Montana; Manitoba; Saskatchewan; Williston Basin


bromine; oil fields; water; brines; California; Texas; Alberta; Louisiana; Mississippi; North Dakota; Oklahoma; water chemistry; water sources


microflora; paleobotany; angiosperms; gymnosperms; ferns; dinoflagellates; Hell Creek Formation; Ludlow Formation; Paleocene; Cretaceous


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glacial Lake Agassiz; Moorhead, Minnesota; paleobotany; Pleistocene


glacial lake sediments; stratigraphy; X ray analyses; mineralogy; lithology; origin of sediments; Lake Agassiz


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Renville County; Newport Field; Deadwood Formation; petroleum; exploration; production; Cambrian

Williston Basin; Heath Formation; oil reservoirs; lithology; depositional environments; Mississippian

Williston Basin; Heath Formation; Mississippian; lithology; depositional environments


Mission Canyon Formation; Duperow Formation; Red River Formation; lithology; formation evaluation; well logging; petroleum; potential; reference wells

Fort Union Group; Tongue River Formation; Sentinel Butte Formation; Paleocene; lithology; stratigraphy; stratigraphic nomenclature; sedimentology; size analyses; sedimentary structures; paleocurrents; lignite; limestone; mineralogy; carbonates; dolomite; sands; tectonics; paleoenvironments; Williston Basin; depositional environments; analytical techniques

Tongue River Formation; Sentinel Butte Formation; stratigraphic nomenclature; stratigraphy; lithology; new formation named; Paleocene


Tongue River Formation; Sentinel Butte Formation; Paleoocene; sediments; texture; depositional environments


Tongue River Formation; Sentinel Butte Formation; Paleocene; Williston Basin; stratigraphy; sedimentology; sedimentary structures


Tongue River Formation; Sentinel Butte Formation; Paleocene; Tertiary; structural geology; stratigraphy; sedimentology


ice-walled lakes; lake sediments; glacial deposits; chemical analyses; size analyses; lake stages; glacial lakes


Sentinel Butte Formation; Paleocene; type section; Golden Valley County; lithology


Griggs County; geologic map; geomorphology; drainage patterns (geologic); lakes; sloughs; groundwater; Pierre Formation; glacial deposits; glacial features; Lostwood Formation; lithology; glacial stratigraphy; sediments; historical geology; glacial history; till; analyses; grain size; pebbles in till


North Dakota; exploration; development


paleontology; dinosaurs; evolution; extinction

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history; early surveys; Missouri River


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stratigraphy; Cenozoic; Pleistocene; Tertiary; Charging Eagle Formation; Medicine Hill Formation; Horseshoe Valley Formation; Snow School Formation; Oahe Formation


Jurassic; stratigraphy; Piper Formation; Rierdon Formation; Swift Formation; Morrison Formation; lithology; correlations; structural features; Williston Basin; Nesson Anticline; Cedar Creek Anticline; Mercer High; "Anderson High"; Stark High; East Dunn High; economic geology; petroleum; salt; gypsum; geologic history; well data; isopach maps; structure maps; cross sections


- Pleistocene; glacial drift; lithology; geologic history; stratigraphy; Gardar Formation; Dahlen Formation; Wylie Formation; Falconer Formation; Lower Red Lake Falls Formation


- Yellowstone River; McKenzie County; glacial geology; drainage changes; fluvial features; geomorphology; Quaternary


- Cavalier County; Pembina County; Pleistocene stratigraphy; lithology; Red Lake Falls Formation; Gardar Formation-type section; Dahlen Formation-type section; Wylie Formation; Falconer Formation; glacial history


- glacial deposits; till; stratigraphy; Minnesota; North Dakota; South Dakota; Manitoba; Red River Valley; Marcoux Formation; Hawk Creek Till; St. Hilaire Formation; Red Lake Falls Formation; Granite Falls Till; Minnedosa Till; Floral Formation; New Ulm Till; Leonard Till; Battleford Formation; Huot Formation; Falconer Formation; Quaternary stratigraphy


- Devonian; Williston Basin; structural features; stratigraphy; oil fields


- Elk Point Group; Winnipegosis Formation; Prairie Formation; Dawson Bay Formation; Souris River Formation; Duperow Formation; Birdbear Formation; Three Forks Formation; depositional environments; geologic history; lithology; petroleum potential


- Williston Basin; geologic map; geology; stratigraphy; structural geology; isopach maps; lithology; structural maps; Cedar Creek Anticline; Nesson Anticline; faults (geologic); economic geology; oil and gas; lignite; uranium; groundwater; radioactive wastes disposal

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Williston Basin; tectonic history; Paleozoic; Mesozoic; structural geology


salt deposits; potash deposits; production; geology; maps; Prairie Formation; Madison Group; Opeche Formation; Pine Salt; Dunham Salt; Williston Basin


structural geology; correlation chart; stratigraphy; paleotectonics; maps; isopach maps; geologic history; Devonian


Williston Basin; Madison Group; Mississippian; Montana; stratigraphy; paleontology; corals; Lodgepole Formation; Mission Canyon Formation; Charles Formation


Madison Group; coral zonation; biostratigraphy; Charles Formation; geologic age


Charles Formation; Mission Canyon Formation; Kibbey Formation; Mississippian; geologic age; coral zones


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- Dakota Sandstone; soil water; groundwater


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- salinity; soils; Red River Valley; water table; soil chemistry;
- glacial Lake Agassiz deposits


- Williston Basin; Tertiary; Arikaree Formation; White River Formation; Golden Valley Formation; Fort Union Group; mineralogy; heavy minerals; volcanism; paleotectonics; sediment sources


- Red Wing Creek Crater; Viewfield Crater; Hartney Crater; fossil craters; meteorite craters; structural geology; petroleum; exploration; structural traps


- Williston Basin; structural geology; meteorite craters; Red Wing Creek Crater; Hartney Crater; Viewfield Crater; Saskatchewan; Manitoba; North Dakota


- Williston Basin; meteorite craters; Red Wing Creek, North Dakota; Viewfield, Saskatchewan; Hartney, Manitoba; stratigraphy; structural geology; cross sections; petroleum geology


- Williston Basin; Red Wing Creek; anomalies; craters; meteor craters; structure; petroleum; exploration; production; Viewfield, Saskatchewan; Cretaceous; Triassic; Jurassic

Williston Basin; Red Wing Creek (North Dakota) Crater; Hartney (Manitoba) Crater; Viewfield (Saskatchewan) Crater; Eagle Butte (Alberta) Crater; Dumas (Saskatchewan) Crater; petroleum; exploration; production; meteorite craters; structural geology


heat flow; thermal gradient; thermal conductivity; Bouguer gravity anomalies; electrical conductivity anomalies; earthquakes; temperature data; well data; Williston Basin; geothermal energy


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Pierre Shale; Cretaceous; mineralogy


geology; North Dakota; bibliographies


oil wells; drill stem tests; well logs


water supply; floods; rivers; dams; irrigation; erosion; stream flow; conservation; geology; hydrogeology; groundwater; lakes; water quality; bibliographies


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Williston Basin; Opeche Formation; depositional environments; Permian


Permian; lithofacies map; paleogeographic map; depositional environments; stratigraphy; lithology; sediments; evaporites; carbonates; phosphate deposits


Permian; lithofacies map; paleogeographic map; geologic time; lithology; depositional environments; Phosphoria Sea; Williston Basin; paleocurrents; sediments; evaporites; phosphate deposits


Williston Basin; Williams County; Dakota Sandstone; Cretaceous; lithology; sedimentary structures; compaction


Williston Basin; Newcastle Formation; Cretaceous; stratigraphy; structure; thickness; cross section; sedimentary structures; depositional environments; geologic history; depositional model
Zeolites; uses; properties; deposits

Sheridan County; geomorphology; landform map; glacial features; glacial deposits; Sheyenne River Basin; stratigraphy; Hell Creek Formation; Ludlow Formation; Cannonball Formation; glacial history; lithology; till analyses; paleontology; economic geology; ground water

Sheridan County; sloughs; dugouts; Prophets Mountain Site; glacial geology; lithology; fossil fish; mollusks; ostracods; Pleistocene


potholes; hydrogeology; Ward County; Dickey County; climate; geology; groundwater; ecology; water chemistry; sedimentation seepage; evaporation


Montana; Hell Creek Formation; Tullock Formation; paleobotany; North Dakota; Wyoming; Cretaceous; Paleocene


lignite; strip mining; soil moisture; vegetation; sediment yield; Dunn County; reclamation

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scoria; Buck Hill burning coal bed; Amidon burning coal bed; formation of scoria; chemical processes; thermal processes; Tongue River Formation


Paleocene; "Scoria"; burning lignite beds; nomenclature; history; "Clinkertill"; "Clinker"; metamorphic rocks; stratigraphy; Fort Union Group; Tongue River Formation; Sentinel Butte Member; lithology; sediment analyses; mineralogy; combustion; ignition; chemical properties; physical properties; spontaneous combustion; lignite; lignite ash; model study; "scoria" formation; petrography; classification; topography; structure; paleontology


scoria; lignite; early investigations


Garrison Dam; seepage control; geology; foundations; lignite; underground; engineering geology


vertebrate paleontology; mammals; systematic revision; description of skeleton; distribution; stratigraphy; paleoecology; teeth


geomorphology; geology; climatology; Devils Lake; water resources; artesian wells; Garrison Diversion Project


- potholes; vegetation; seepage; groundwater movement; salinity; hydrologic budget


- potholes; wildlife habitats; groundwater movement; seepage; vegetation


- potholes; water table; salinity; groundwater; observation wells; saline lakes; seepage; groundwater movement; Stutsman County


- hydrogeology; surface-groundwater relationships; potholes; glacial drift; water balance; evapotranspiration; groundwater movement; salinity; water table


- Cretaceous; Paleocene; Tertiary; palynology; paleontology; paleoclimatology; paleobotany; invertebrates; vertebrates; Dinosaurs; mammals; Fort Union Group; Hell Creek Formation; Lance Formation; Golden Valley Formation; stratigraphy; Fox Hills Formation; Cannonball Formation; paleoecology


- petroleum geologist; biography


- geology; economic geology; lignite; Fort Union Formation; geologic map


- lignite; analyses; lithologic descriptions; test holes; Fort Union Formation

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lignite; geochemistry; oxidation; specific heat; storage; properties; computer model

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lignite; analyses; lignite ash; chemical properties; sulfur; uranium; germanium; trace elements; mines


geologic map; White Butte East Quadrangle; Hettinger County; coal resources; lignite; measured sections; stratigraphy; coal analyses; economic geology; oil and gas; sodium chloride; limestone; quartzite; sand and gravel


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lithostratigraphy; biostratigraphy; paleoenvironments; fossils; distribution; systematic descriptions


well logs; lignite; Fort Union Group

stratigraphy; physiography; structure; lignite; Fort Union Formation; lignite analyses


Fort Union Formation; Tertiary; Hell Creek Formation; Cretaceous; Cannonball Member; Ludlow Member; geology; palynology; micropaleobotany; South Dakota


Red River Formation; petroleum; exploration; wildcat wells; hydrocarbon distribution; economic evaluation


Williston Basin; Tioga Oil Field; Onstad Field; magnetic anomalies; structure maps; aeromagnetic maps


Billings County; Golden Valley County; McKenzie County; Fort Union Group; stratigraphic nomenclature; methodology; lithostratigraphy; petrology; quartz; feldspar; lithic clasts; chert; sandstones; petrogenesis; composition; mineralogy; sediment source; measured sections; lithology


gеologic map; Morton County; Grant County; Heart Butte Quadrangle; measured sections; lignite; geology; coal resources


gеologic map; Heart Butte NW Quadrangle; Morton County; Grant County; geology; measured sections; lignite; coal resources


gelogic history; Williston Basin; oil; natural gas; lignite; uranium; Leonardite; potash; salt; bentonite; molybdenum; scoria; physiography; climatology; mineral resources; water resources; water utilization; Yellowstone River; Little Missouri River; Knife River; Heart River; Cannonball River; Grand River; water quality; groundwater; floods; soils; Slope County; Bowman County; Hettinger County; Adams County; Golden Valley County; Billings County; Stark County; McKenzie County; Dunn County; mining; paleontology; geologic maps


Devils Lake; lake sediments; Holocene; morphology; salinity; glacial Lake Minnewaukan; diatoms; paleontology; paleolimnology; paleoenvironments

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Miocene; Arikaree Formation; vertebrate paleontology; Slope County


Oligocene; Miocene; Slope County


Cenozoic; Oligocene; Chadron Formation; Brule Formation; Killdeer Formation; Miocene; stratigraphic nomenclature; White River Group

White River Group; tectonics; stratigraphy; nomenclature; Chadron Formation; Brule Formation; Arikaree Group; Gering Formation; Sharps Formation; Monroe Creek Formation; Harrison Formation; lithology; geologic age; correlations; stratigraphic nomenclature revisions; paleontology; Killdeer Formation; type sections; petrography; X ray diffraction analyses; sedimentary history; paleoclimates; paleoenvironments; depositional environments

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petroleum; natural gas; legal aspects; legislation; history; conservation


Williston Basin; Saskatchewan; gravity surveys; magnetic surveys; seismic surveys; structural geology; oil exploration; Pre-Mississippian strata


Williston Basin; structural geology; geophysics; oil exploration

- ostracods; Paleocene; Fort Union Formation; Cannonball Formation; paleontology; Tongue River Member; Western North Dakota


- Tongue River Member; Fort Union Formation; Paleocene; ostracods; lithology; paleontology; depositional environments


- Artesian aquifers; Dakota Sandstone; water supply; water wells


- groundwater movement; Dakota Sandstone; stratigraphy; water wells; water analyses


- Lake Agassiz; history; surveys


- paleontology; mollusks; taxonomy; localities; biogeography; stratigraphy; Wyoming; Montana; Saskatchewan; Utah; North Dakota; Alberta


gems; agate; petrified wood; chalcedony; mineral deposits


Williston Basin; Paleozoic; stratigraphy; petroleum; production; reservoirs; exploration; structural geology; porosity; lithology


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soils; genesis; morphology; profiles; horizons; engineering properties; classification; utilization; management; soil mechanics; soil maps


McIntosh County; marl; limestones; dugouts; peat; radiocarbon dates; stratigraphy; paleoenvironments; sloughs; Holocene; paleontology; mollusks; algae; sponges; moss

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soils; distribution; morphology; genesis; classification; utilization; management; airphotos; soil maps


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lignite; chemical properties; petrography; Paleocene; Williston Basin; lignite ash; compositions


lignite; Tongue River Formation; sodium content; analyses


lignite; chemical analyses; sodium; overburden; sandstone; shale


Tongue River Formation; Paleocene; Oliver County; palynology; silicified peat


lignite; chemical analyses; sedimentary petrology; organic residues; properties; heating


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lignite; physical properties; chemical analyses; calorific value

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badlands; erosion; slopewash; Sentinel Butte Formation; Tongue River Formation; sediment yield


geochemistry; Pierre Shale; stratigraphy; correlation; lithology; facies (sedimentary); analyses; mineralogy; chemical properties; clays; Montana; South Dakota; Cretaceous


Pierre Shale; Cretaceous; stratigraphy; organic matter; geochemistry; chemical analyses; mineralogy; clay minerals


Pierre Shale; Cretaceous; organic matter; analyses; hydrocarbons


Pierre Shale; Cretaceous; cadmium; clays


Pierre Shale; Cretaceous; stratigraphy; mineralogy; geochemistry; clay minerals


Williston Basin; Jurassic; Morrison Formation; Ellis Group; Sundance Formation; Piper Formation; lithology

lignite; uranium; Billings County; Fort Union Group; Golden Valley County; sandstones


Eddy County; Foster County; water wells; groundwater; well logs; water quality; water chemistry; artesian wells


Eddy County; Foster County; groundwater resources; geology; water quality; aquifers; glacial aquifers; Dakota Sandstone; Pierre Shale; water utilization


groundwater; water resources development; hydrologic data; aquifer characteristics; water wells; hydrogeology; aquifers; water yield; water levels; water quality; chemical analyses; water utilization; water temperature; water sources; water table; observation wells; springs


Williston Basin; geology; groundwater; Fox Hills Formation; Hell Creek Formation; Ludlow Formation; Cannonball Formation; Tongue River Formation; Sentinel Butte Formation; Golden Valley Formation; White River Formation; Arikaree Formation; aquifers; geologic map; water supply; water quality; utilization; cross sections


Hettinger County; Fort Union Formation; Pleistocene; permafrost


Williams County; Divide County; McKenzie County; lignite; sedimentation; sedimentary petrology; depositional environments


photo interpretation; landslides; subsidence
  landslides; subsidence

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  palynology; Cretaceous; Colorado; South Dakota; Montana; Wyoming; North Dakota; Tertiary

  coal; palynology; Wasatch Formation; Tongue River Member; Fort Union Formation; biostratigraphy; palynomorphs; zonation; Golden Valley Formation; geologic age; Wyoming; North Dakota; Paleocene-Eocene boundary


  limnology; biochemistry; geochemistry; water chemistry; alkalinity; calcium; magnesium; sodium; potassium; chlorides; sulfates; iron; silica; interstices; sediments; mineralogy; salinity; Holocene chronology; Devils Lake


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mollusks; Recent; Pleistocene; bibliographies; Naiades; Sphaeriidae; freshwater pulmonates; freshwater operculates; land gastropods


mollusks; Recent; Pleistocene; bibliographies


mollusks; Missouri Coteau; glacial lake deposits; glacial geology; stratigraphy; paleoecology; paleoenvironments; Stutsman County; Logan County; McIntosh County; LaMoure County; Burleigh County; Sheridan County; Divide County; radiocarbon dates; paleontology


Richland County; Sheyenne Delta; mollusks; paleontology; radiocarbon dates; glacial Lake Agassiz; Pleistocene


Burleigh County; paleontology; mollusks; Pleistocene; paleoecology


Pleistocene; mollusks; paleontology


Alaska; glaciers; Missouri Coteau; North Dakota; glacial lake sediments; mollusks; paleoclimate; paleoecology


mollusks; Pleistocene; Missouri Coteau; bibliographies; fossil lists; fossil locations


paleontology; Lake Agassiz; Pleistocene; Holocene; Recent; mollusks; paleoecology

Missouri Coteau; mollusks; Pleistocene; Wisconsinan; paleoecology; habitats; stratigraphy; glacial deposits; glacial lakes; modern analog; Alaska; paleoenvironments


glacial lakes; paleontology; mollusks; Pleistocene


Missouri Coteau; mollusks; Pleistocene; glacial history; radiocarbon dates; glacial deposits; glacial lake deposits; paleontology; Long Lake, Minnesota; Recent; paleoenvironments; geologic ages


Grand Forks County; Lake Agassiz sediments; lithology; glacial lake deposits


mollusks; Recent; limnology; Missouri Coteau; climate; water chemistry; ecology; saline lakes; alkaline lakes; sloughs


Grant County; Cannonball River; terraces (geologic); stratigraphy; mollusks; paleontology; lithology; Pleistocene; paleoecology


Lake Agassiz sediments; beaches; mollusks; paleontology; Grand Forks County; Pleistocene; depositional environments; lithology


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stratigraphy; surficial geology; Sentinel Butte Formation; Medicine Hill Formation; Horseshoe Valley Formation; Snow School Formation; Oahe Formation; Quaternary; Cenozoic; sedimentation; lithostratigraphy; type sections; geologic history; geohydrology; cross section


Mercer County; McLean County; Charging Eagle Formation; Medicine Hill Formation; Horseshoe Valley Formation; Snow School Formation; Coteau Formation; Oahe Formation; type sections; new formation names; lithology; cross sections; Cenozoic


history; population; irrigation; water resources planning; government agencies; water supply; water use; drainage basins; projects; hydroelectric development; flood control; recreation; fish; wildlife; potential development; bibliography


history; physiography; geology; climate; agriculture; forests; water resources; irrigation; electric power; mineral resources; petroleum; natural gas; lignite; uranium; fish; wildlife; recreation; government agencies


aerial photography; lignite; strip mines; coal mining methods; analyses; reclamation; ranking categories


lignite; production; deposits; strip mines; map
geochemistry; soils; rocks; groundwater; plants; data

geochemistry; plants; soils; sediments; groundwater; Fort Union Formation; power plants; lignite mines

Renville County; Ward County; Burke County; Divide County; Williams County; Mountrail County; McKenzie County; land use; vegetation

geochemistry; soils; plants; lignite; mining effects; groundwater; power plants; oil shale; Fort Union Formation

geochemistry; soils; plants; shale; Fort Union Formation; strip mining effects

Billings County; Stark County; Slope County; Hettinger County; Adams County; Bowman County; Golden Valley County; Morton County; Grant County; land use; vegetation

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land use; vegetation

geophysical logs; well logs; lithology; lignite; exploration

geophysical logs; lithology; well logs; lignite; exploration

geophysical logs; lithology; well logs; lignite; exploration


lignite; drill-hole data; geophysical logs; lithology


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Cannonball Formation; Ludlow Formation; Paleocene; mollusks; foraminiferids; ostracods; paleoecology; biostratigraphy


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vertebrate paleontology; Cretaceous; Paleocene; Hell Creek Formation; Tullock Formation; Fox Hills Sandstone; Cannonball Formation; sedimentation; depositional environments; evolution; dinosaurs; mammals; plants; paleoclimate; paleoecology; extinction


Langdon; water chemistry; Cavalier County; groundwater; contamination; hydrogeology; engineering geology


uranium; lignite; coal; shale; classification; petrography; mineralogy; diagenesis; uranium deposits; distribution; North Dakota; Sentinel Butte Formation; Golden Valley Formation; Fort Union Formation; South Dakota; Montana; lithology; regional geology; structural geology; sedimentary geology; groundwater; depositional processes; uranium minerals; Tertiary


Red River Valley; glacial Lake Agassiz; geography; history


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