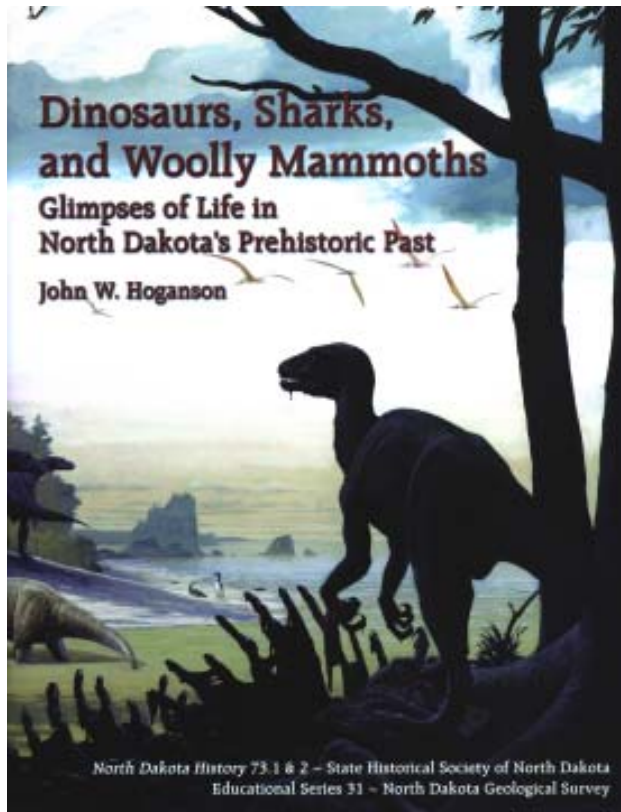


NEW PUBLICATIONS



Educational Series



Hoganson, John W., 2007, Dinosaurs, Sharks and Woolly Mammoths: Glimpses of North Dakota's Prehistoric Past: North Dakota Geological Survey Educational Series No. 31, 60 p. Price \$15.00.

North Dakota Geological Survey Educational Series 31 traces the history of life in North Dakota from its humble beginnings about 500 million years ago, when primordial seas inhabited by primitive marine plants and animals covered the state, until the end of the Ice Age, a few thousand years ago when woolly mammoths and other large mammals roamed the land. In this publication, NDGS paleontologist John Hoganson summarizes our knowledge of life, climate, and environments during different times in North Dakota's geologic past based on the fossil record. Most of the major publications over the past century about North Dakota paleontology are cited. Illustrated fossils, paintings of prehistoric plants and animals, habitat reconstruction images, photographs, and maps are all in color.

This is the first single-source publication to provide an overview of the prehistoric life of North Dakota. It is a companion volume to the recently installed Corridor of Time exhibit at the North Dakota Heritage Center in Bismarck. This is also a special issue of *North Dakota History: The Journal of the Northern Plains* and was a cooperative project between the NDGS and State Historical Society of North Dakota.

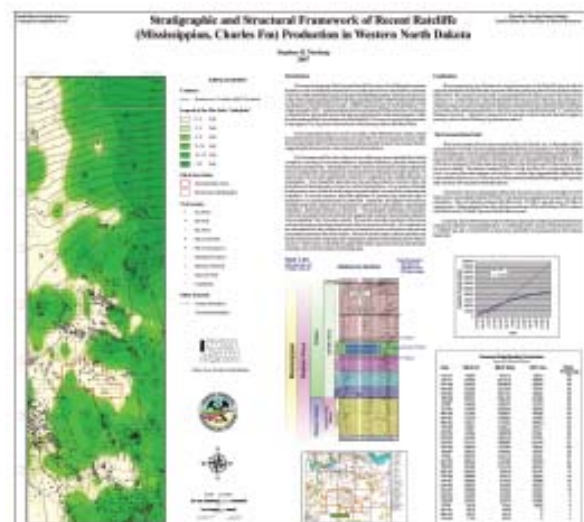
Geologic Investigations

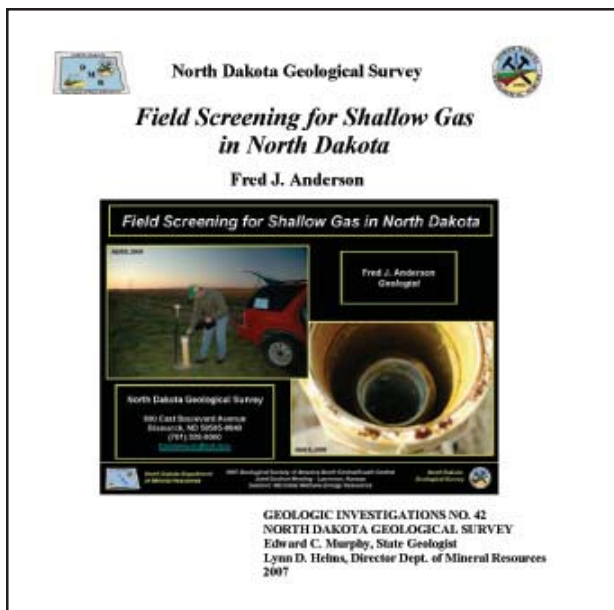
Anderson, Fred J., 2007, Landslide Inventory Map and Surficial Geology of the Valley City Area, North Dakota: North Dakota Geological Survey Geologic Investigations No. 39. Price \$10.00, CD \$5.00.

Murphy, Edward C., 2007, Uranium Deposits in Southwestern North Dakota: North Dakota Geological Survey Geologic Investigations No. 40. Price \$5.00.

Nordeng, Stephan H., 2007, Stratigraphic and Structural Framework of Recent Ratcliffe (Mississippian, Charles Fm) Production in Western North Dakota: North Dakota Geological Survey Geologic Investigations No. 41. Price \$10.00.

G.I. 41 contains a brief history of the discovery of the Foreman Butte Field together with production statistics. A reference section based on a compensated density-neutron log outlines the productive interval in the discovery well (Ruth I-23) for the Foreman Butte field. This reference section includes standard tops picked by the North Dakota Industrial Commission and the tops within the Ratcliffe interval between the Base of the Last Charles Salt and the top of the Mission Canyon formation. A regional isopach map of the anhydrite within the producing interval at Foreman Butte outlines a potential exploration fairway that extends at least 60 miles along the Montana-North Dakota border. The regional structure of the producing interval is included as an overlay on the anhydrite isopach.



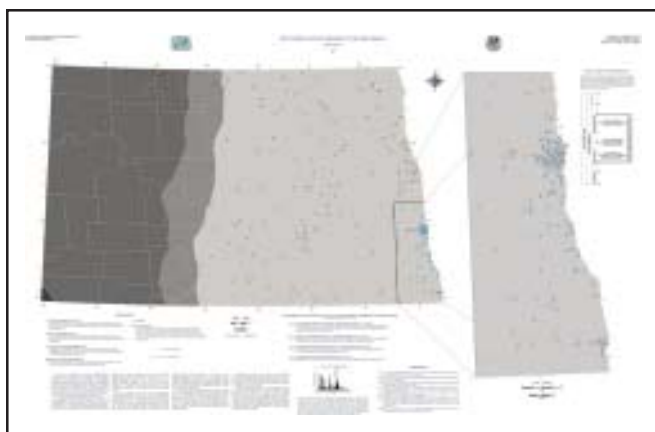


Anderson, Fred J., 2007, Field Screening for Shallow Gas in North Dakota: North Dakota Geological Survey Geologic Investigations No. 42. CD. Price: \$5.00.

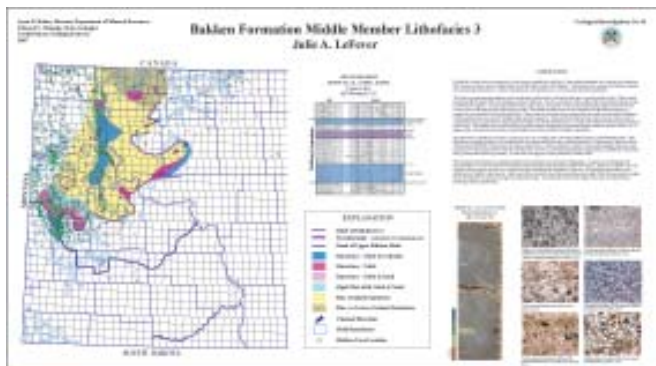
The methods and results of recent shallow gas field investigations were recently summarized in Geologic Investigation No. 42. This series of MS PowerPoint slides (with text narrative) provides highlights of recent field screening studies completed in several counties in North Dakota. An initial discussion of the relationship between shallow gas occurrences and the presence of detrital lignites in shallow gas sourced sediments is included. Available online as a series of downloadable PowerPoint slides or on CD with additional text narrative included.

Anderson, Fred J., 2007, Precambrian Basement Drillhole Map of North Dakota: North Dakota Geological Survey Geologic Investigations No. 43. Price \$10.00.

A Precambrian basement drillhole map for the state of North Dakota has recently been completed. This 1:750,000 scale map, with 1:250,000 scale inset of the Red River Valley, depicts the location and type of wells drilled into the Precambrian basement bedrock. Generalized basement geotectonic terranes are also shown, as modified from previous interpretations, constrained with contemporary aeromagnetic data. This map, along with well databases, provides the locations and depths of 360 individual wells that penetrate the Precambrian igneous and metamorphic rocks lying beneath the Phanerozoic sedimentary cover of North Dakota. This map is available in a traditional 30"x 48" paper format or on CD (includes well database in MS Excel format). A brief discussion of the chronological aspects of drilling into the basement rocks is also included.



Anderson, Fred J. and Juenker, Bruce, J., 2007, Preliminary Isopach Map on the Cretaceous Greenhorn-Mowry Formation Interval in North Dakota: North Dakota Geological Survey Geologic Investigations No. 44. Price \$5.00.



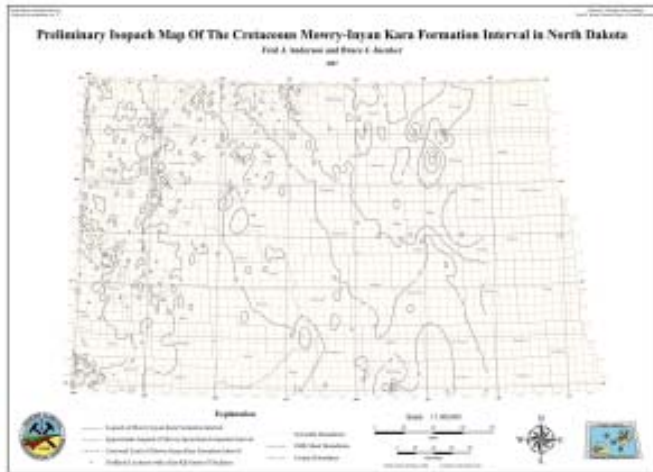
LeFever, Julie A., 2007, Bakken Middle Member lithofacies 3: North Dakota Geological Survey Geologic Investigations No. 45. \$5.00.

Geologic Investigation no. 45 sheet 3 (Bakken Middle Member lithofacies 3) is the first of a 6-sheet map series displaying the various lithofacies of the Middle Bakken member. The map consists of a 1:1,000,000 map with description, wireline-log, core photos and thin-section photomicrographs of the individual facies.



Anderson, Fred J. and Manz, Lorraine, A., 2007, Geology of the Minot area: North Dakota Geological Survey Geologic Investigations No. 46 Price \$5.00.

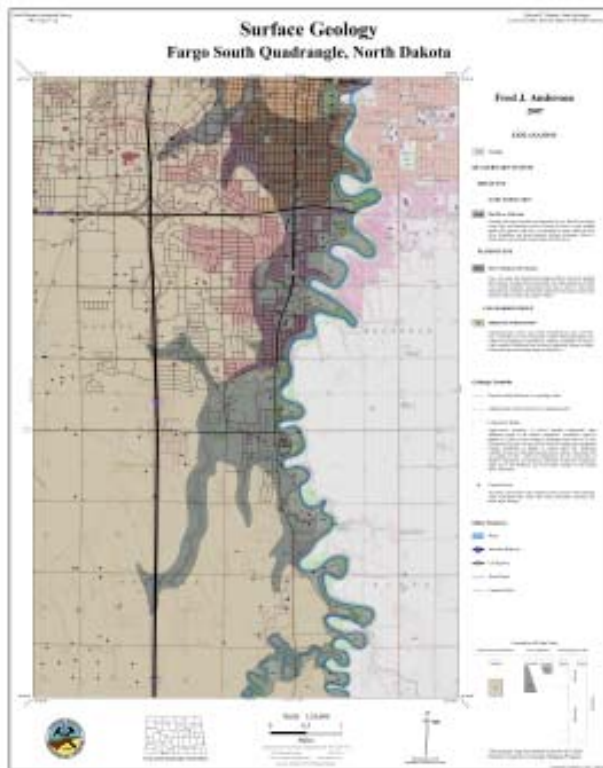
This 23" x 35" poster features a 1:48,000-scale geologic map of the Minot area draped over a shaded relief background. Two accompanying cross-sections illustrate the relationship between geology and topography. Also included are photographs and descriptions of the typical geologic units and materials present in the area, major glacial landforms, and potential geologic hazards.



Anderson, Fred J. and Juenker, Bruce, J., 2007, Preliminary Isopach Map on the Cretaceous Mowry-Inyan Kara Formation Interval in North Dakota: North Dakota Geological Survey Geologic Investigations No. 47. Price \$5.00.

A preliminary isopach map drawn on the Cretaceous Mowry – Inyan Kara Formation Interval in North Dakota at a scale of 1:1,000,000 has recently been completed. This 20"x 28" map displays isopach contours drawn on a 50 foot thickness interval. Isopach contours on this map were created from over 12,100 interval thickness values derived from stratigraphic tops data obtained from databases of the ND Oil & Gas Division, NDGS, and ND State Water Commission.

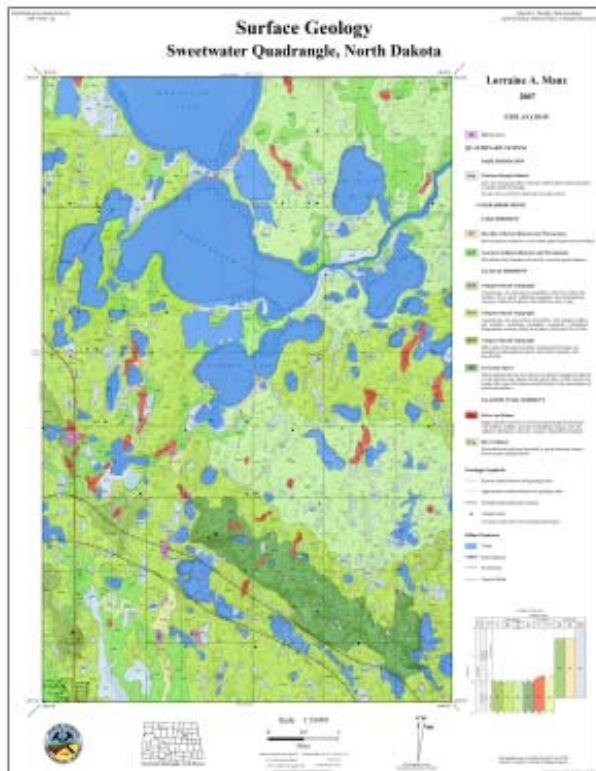
24K Geology Maps



Anderson, Fred J., 2007, Surface Geology: Fargo South Quadrangle, North Dakota: North Dakota Geological Survey 24k Frgo S -sg, 1:24,000 scale. Price \$5.00.

The surface and near-surface geology of the rapidly expanding south Fargo area has recently been mapped at the detailed scale of 1:24,000. The relationships and areal extents of recent alluvial sediments associated with the Red River along with Pleistocene glacial sediments are depicted on this map. Problematic areas associated with glaciofluvial compaction ridge sediments have been delineated based on a contemporary interpretation of recently completed near-surface drilling investigations.

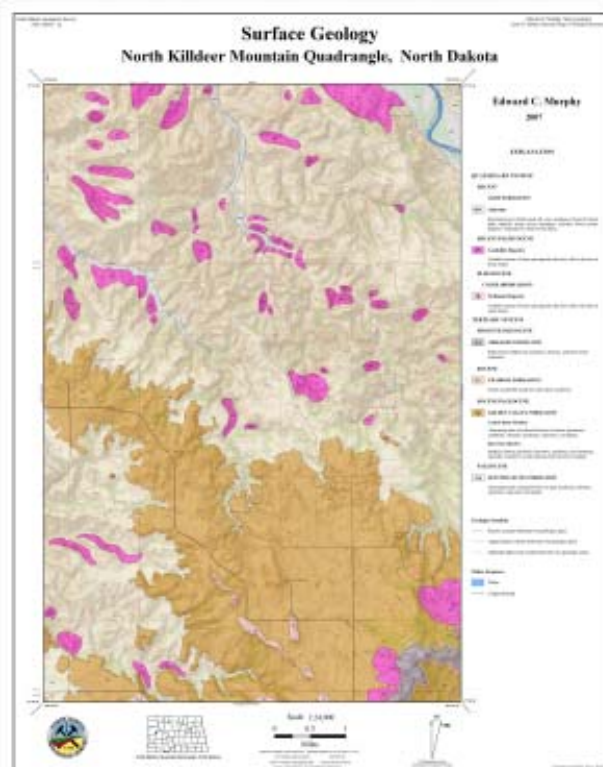
- Bluemle, John P., 2007, Surface Geology: Anamoose SW, North Dakota: North Dakota Geological Survey 24k Anms SW -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Balfour, North Dakota: North Dakota Geological Survey 24k Blfr -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Balfour NW, North Dakota: North Dakota Geological Survey 24k Blfr NW -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Barlow, North Dakota: North Dakota Geological Survey 24k Brlw -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Bergen, North Dakota: North Dakota Geological Survey 24k Brgn -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Black Hammer Hill, North Dakota: North Dakota Geological Survey 24k BkHH -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Drake NW, North Dakota: North Dakota Geological Survey 24k Drke NW -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Fessenden East, North Dakota: North Dakota Geological Survey 24k Fsdn E -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Fessenden West, North Dakota: North Dakota Geological Survey 24k Fsdn W -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Karlsrhue, North Dakota: North Dakota Geological Survey 24k Klrh -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Karlsrhue NW, North Dakota: North Dakota Geological Survey 24k Klrh NW -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Manfred, North Dakota: North Dakota Geological Survey 24k Mnfd -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Manfred NW, North Dakota: North Dakota Geological Survey 24k Mnfd NW -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Munster, North Dakota: North Dakota Geological Survey 24k Mnst -sg, 1:24,000 scale. Price \$5.00.
- Bluemle, John P., 2007, Surface Geology: Pleasant Valley, North Dakota: North Dakota Geological Survey 24k PlsV -sg, 1:24,000 scale. Price \$5.00.
- Manz, Lorraine A., 2007, Surface Geology: Grand Harbor Quadrangle, North Dakota: North Dakota Geological Survey 24k Grn H -sg, 1:24,000 scale. Price \$5.00.



Manz, Lorraine A., 2007, Surface Geology: Sweetwater Quadrangle, North Dakota: North Dakota Geological Survey 24k Swt W -sg, 1:24,000 scale. Price \$5.00.

This map is one of four (Devils Lake, Camp Grafton, and Grand Harbor are the other three) that depict the surface geology of the Devils Lake urban area. Surface geology is superimposed on a topographic background.

- Murphy Edward, C., 2007, Surface Geology: Bratburg Butte, North Dakota: North Dakota Geological Survey 24k BrbB -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Hay Flat Quadrangle, North Dakota: North Dakota Geological Survey 24k HyFl -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Lone Butte SE Quadrangle, North Dakota: North Dakota Geological Survey 24k LonB SE -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Lookout Butte Quadrangle, North Dakota: North Dakota Geological Survey 24k LktB -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Lookout Butte SE Quadrangle, North Dakota: North Dakota Geological Survey 24k LktB SE -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Lost Bridge Quadrangle, North Dakota: North Dakota Geological Survey 24k LstB -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Mandaree NE Quadrangle, North Dakota: North Dakota Geological Survey 24k Mndr NE -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Mandaree SE Quadrangle, North Dakota: North Dakota Geological Survey 24k Mndr SE -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Mandaree SW Quadrangle, North Dakota: North Dakota Geological Survey 24k Mndr SW -sg, 1:24,000 scale. Price \$5.00.

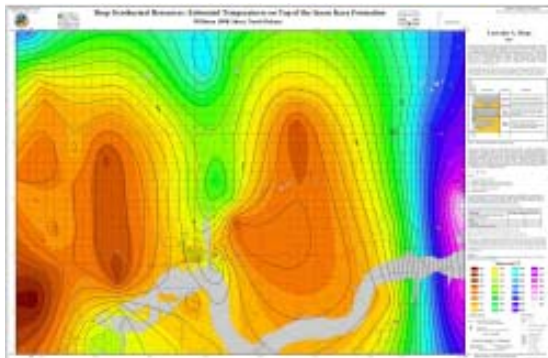


Murphy, Edward C., 2007, Surface Geology: North Killdeer Mountain Quadrangle, North Dakota: North Dakota Geological Survey 24k NrKM -sg, 1:24,000 scale. Price \$5.00.

The North Killdeer Mountain Quadrangle encompasses approximately 2/3s of North Killdeer Mountain. The remainder of North Killdeer Mountain falls within the adjoining Killdeer Mountains and Lost Bridge quadrangles. The geologic maps of both of these quadrangles have also been published. The uplands are primarily Golden Valley strata with the Arikaree Formation comprising the caprock for North Killdeer Mountain. The Sentinel Butte Formation is the dominant rock unit in the badlands topography. Landslides are prevalent along the slopes of North Killdeer Mountain and within the Little Missouri River badlands.

- Murphy, Edward C., 2007, Surface Geology: Petes Creek Quadrangle, North Dakota: North Dakota Geological Survey 24k PtsC -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Saddle Butte Quadrangle, North Dakota: North Dakota Geological Survey 24k SdlB -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: Saddle Butte SW Quadrangle, North Dakota: North Dakota Geological Survey 24k SdlB SW -sg, 1:24,000 scale. Price \$5.00.
- Murphy, Edward C., 2007, Surface Geology: String Buttes Quadrangle, North Dakota: North Dakota Geological Survey 24k StgB -sg, 1:24,000 scale. Price \$5.00.

100K Geothermal Maps



Manz, Lorraine A., 2007, Deep geothermal resources: estimated temperatures on top of the Inyan Kara Formation: Williston 100k sheet: North Dakota Geological Survey 100k Wlst -g-Km, 1:100,000 scale. Price \$5.00.

This map is one of a series of six that show temperature gradients for the four major geothermal aquifers in the Williston area on a 1:100,000 scale. The Dakota Group contains the shallowest of these. The map shows temperatures (in degrees Fahrenheit) on top of the Inyan Kara Formation, the principal source of thermal waters within the Group. Temperatures were calculated using stratigraphic data from the Oil and Gas Division's well log database, and estimated values

for rock thermal conductivities and regional heat flow. Depth to formation surface is measured in feet. A brief discussion includes background information on North Dakota's deep geothermal resources, a description of the temperature calculation method and a stratigraphic column showing the generalized stratigraphy of the Dakota Group.

Manz, Lorraine A., 2007, Deep geothermal resources: estimated temperatures at the base of the Inyan Kara Formation: Williston 100k sheet: North Dakota Geological Survey 100k Wlst -g-Kikb, 1:100,000 scale. Price \$5.00.

Manz, Lorraine A., 2007, Deep geothermal resources: estimated temperatures on top of the Madison Formation: Williston 100k sheet: North Dakota Geological Survey 100k Wlst -g-Km, 1:100,000 scale. Price \$5.00.

Manz, Lorraine A., 2007, Deep geothermal resources: estimated temperatures on top of the Duperow Formation: Williston 100k sheet: North Dakota Geological Survey 100k Wlst -g-Kd, 1:100,000 scale. Price \$5.00.

Manz, Lorraine A., 2007, Deep geothermal resources: estimated temperatures on top of the Red River Formation: Williston 100k sheet: North Dakota Geological Survey 100k Wlst -g-Krr, 1:100,000 scale. Price \$5.00.

100K Mineral Maps

Murphy, Edward C., 2007, Uranium: Grassy Butte 100k sheet: North Dakota Geological Survey 100k GrsB -u, 1:100,000 scale. Price \$5.00



Murphy, Edward C., 2007, Lignite Reserves: Hazen 100k sheet: North Dakota Geological Survey 100k Hazn -l, 1:100,000 scale. Price \$5.00

The Hazen 100K map sheet contains 3.5 billion tons of mineable lignite. All four major coal mines currently operating in North Dakota; Falkirk, Center, Freedom, and Beulah, occur within this map sheet. In addition, Indian Head and Glenharold, two large mines abandoned within the last 25 years, are also located in the Hazen 100k sheet.

Outside Publications

Fred Anderson, 2007, Shallow gas field screening in North Dakota: *in* Microbial Methane Energy Resources, Joint North/Central and South-Central GSA meeting, Lawrence, Kansas, p.4, April 11.

Hoganson, J. W., and McDonald, H. G., 2007, First report of Jefferson's Ground Sloth (*Megalonyx jeffersonii*) in North Dakota: paleobiogeographical and paleoecological significance: *Journal of Mammalogy*, v. 88, no. 1, p. 73-80.

Hoganson, John W., 2007, Dinosaurs, Sharks and Woolly Mammoths: Glimpses of North Dakota's Prehistoric Past: North Dakota State Historical Society North Dakota History Vol. 73, Nos. 1 & 2 (NDGS ED-31 – joint publication) 60 pp.

Nordeng, Stephan H., 2007, Stratigraphic and structural framework of recent Ratcliffe (Mississippian Charles Formation) production in McKenzie County, North Dakota: 15th Annual Williston Basin Petroleum Conference and Prospect Expo proceedings, p 23, May 1.