NEW PUBLICATIONS

Geologic Investigations



Manz, L.A., Hopkins, D.G., and Ulmer, M.G., 2010, The National Geochemical Survey – a summary of North Dakota datasets: North Dakota Geological Survey Geologic Investigations, no. 114, 226 p. This report is a comprehensive summary of field and analytical data for more than 1,700 soil samples that were collected throughout North Dakota as part of the National Geochemical Survey component of the U.S. Geological Survey's Mineral Resources Program. Data are presented in tabular form and also as a set of maps depicting the statewide spatial distribution of 34 major, minor, and trace elements. The text includes descriptions of sampling and analytical procedures, and a short discussion. GI 114 is only available on CD (\$5.00).

Anderson, F.J. and Gudmunsen, C.B., 2010, Field Screening for Shallow Gas in Eddy County, North Dakota, North Dakota Geological Survey Geologic Investigation, no. 117.



Anderson, F.J., and Gudmunsen, C.B., 2010, Field Screening for Shallow Gas in Foster County, North Dakota: North Dakota Geological Survey Geologic Investigation, no. 118. GI-118 is a 1:150,000 scale map that presents and briefly describes the results of recently completed shallow gas field screening of shallow ground-water wells in Foster County, North Dakota. The results from 69 tested wells are displayed, overlain on a shaded-relief base map. A brief discussion, along with a graphical display of the results, is included. Price: \$10.00 paper or \$5.00 for pdf on CD.

Anderson, F.J. and Gudmunsen, C.B., 2010, Field Screening for Shallow Gas in Nelson County, North Dakota, North Dakota Geological Survey Geologic Investigation, no. 119.

Anderson, F.J. and Gudmunsen, C.B., 2010, Field Screening for Shallow Gas in Ramsey County, North Dakota, North Dakota Geological Survey Geologic Investigation, no. 120.

Anderson, F.J. and Gudmunsen, C.B., 2010, Field Screening for Shallow Gas in Cavalier County, North Dakota, North Dakota Geological Survey Geologic Investigation, no. 121.

Anderson, F.J. and Bubach, B.J., 2010, Field Screening for Shallow Gas in Grand Forks County, North Dakota Geological Survey Geologic Investigation, no. 122.



Nordeng, S.H., 2010, First 60 - 90 Day Average Production Per Well in the Bakken & Three Forks Formations in North Dakota, North Dakota Geological Survey Geologic Investigation, no. 123. This is a map of North Dakota showing the location of wells producing from the Bakken Pool. The average daily rate of oil production for the first 60 days of service is shown by the color and size of circles centered on the location of the well.

Anderson, F.J. and Bubach, B.J., 2010, Field Screening for Shallow Gas in Walsh County, North Dakota Geological Survey Geologic Investigation, no. 124.

Anderson, F.J. and Bubach, B.J., 2010, Field Screening for Shallow Gas in Pembina County, North Dakota Geological Survey Geologic Investigation, no. 125.



Anderson, F.J., and Bubach, B.J., 2010, Field Screening for Shallow Gas in Dickey County, North Dakota: North Dakota Geological Survey Geologic Investigation, no. 126. GI-126 is a 1:150,000 scale map that presents and briefly describes the results of recently completed shallow gas field screening of shallow ground-water wells in Dickey County, North Dakota. The results from 257 tested wells are displayed, overlain on a shaded-relief base map. A brief discussion, along with a graphical display of the results, is included. Price: \$10.00 paper or \$5.00 for pdf on CD.



Nordeng, S.H. and Nesheim, T.O., 2010, Resource Potential of the Tyler Formation: North Dakota Geological Survey North Dakota Geological Survey Geologic Investigations, no. 127. This poster presents a Time-Temperature Index map of the Tyler Formation as well examples of formation pressure determinations from drill stem tests (DSTs) and two sets of RockEval data. The data suggest that the Tyler Formation may possess several features associated with basin-centered petroleum accumulations.



Anderson, F.J., Gudmunsen, C.B., Hall, B.N., Ries, A.J., Christensen, A.R., and Bubach, B.J., 2010, Locations of FID Shallow Gas Occurrences in North Dakota: Geological Survey Geologic Investigation, no. 128. GI-128 is a 1:500,000 scale well location summary map showing the locations and results of all wells field tested for the presence of shallow natural gas from 2006 to 2010. The results from over 9,300 tested wells are shown. GI-128 is available in traditional paper map format or on CD. Price: \$10.00 for paper map format and \$5.00 on CD.

Geology Maps

Manz, L.A., 2010, Geologic map of the Rugby Quadrangle, North Dakota: North Dakota Geological Survey 24K Series, no. Rgby-sg. Manz, L.A., 2010, Geologic map of the Tunbridge Quadrangle, North Dakota: North Dakota Geological Survey 24K Series, no. Tngb-sg.

Geothermal Maps

Manz, L.A., 2010, Deep geothermal resources - estimated temperatures on top of the Lodgepole/Duperow/Red River Formation, Kenmare 100K Sheet, ND: North Dakota Geological Survey 100K Map Series, no. Knmr-g-MI/Dd/Orr.

Landslide Maps (\$5.00 paper, \$5.00 pdf on CD, \$25 shape file on CD)

Murphy, E.C., 2010, Areas of landslides Blue Buttes, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. BluB-I. Murphy, E.C., 2010, Areas of landslides Blue Buttes SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. BluB SE-I.



Murphy, E.C., 2010, Areas of landslides Croff, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Crff-I. A total of 235 landslides were mapped in the Croff Quadrangle covering an area of 5,240 acres. The landslides ranged from small isolated slides of less than one acre to large complex slides that covered up to 580 acres. The majority of landslides in this map occur in the badlands topography adjacent to the Little Missouri River and within the drainages of Burnt and Deep creeks. Landslides along this stretch of the Little Missouri River Valley significantly increase in size and number due to the redirection of the Little Missouri River into this area by glaciers approximately 600,000 years ago. The north-flowing ancestral Little Missouri River was forced to the east, near the west edge of the North Unit of the Theodore Roosevelt National Park, and quickly eroded a new channel creating over-steepened slopes that were very susceptible to slope failure. Many of these landslides are hundreds, if not thousands, of years old.

Murphy, E.C., 2010, Areas of landslides Figure 4 Ranch, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Fg4R-I. Murphy, E.C., 2010, Areas of landslides Johnsons Corner, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. JhnC-I.

Murphy, E.C., 2010, Areas of landslides Keene, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Kene-I. Murphy, E.C., 2010, Areas of landslides Mandaree, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. MvTn-I. Murphy, E.C., 2010, Areas of landslides New Town, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. NwTn-I. Murphy, E.C., 2010, Areas of landslides New Town SK, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. NwTn SE-I. Murphy, E.C., 2010, Areas of landslides New Town SW, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. NwTn SE-I. Murphy, E.C., 2010, Areas of landslides Parshall, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Prsh-I. Murphy, E.C., 2010, Areas of landslides Parshall NE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Prsh NE-I. Murphy, E.C., 2010, Areas of landslides Parshall SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Prsh NE-I. Murphy, E.C., 2010, Areas of landslides Parshall SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Prsh SE-I. Murphy, E.C., 2010, Areas of landslides Parshall SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Prsh SW-I. Murphy, E.C., 2010, Areas of landslides Raub, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Raub-I. Murphy, E.C., 2010, Areas of landslides Raub, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Raub-I. Murphy, E.C., 2010, Areas of landslides Raub SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Raub SE-I. Murphy, E.C., 2010, Areas of landslides Raub NW, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Raub SE-I. Murphy, E.C., 2010, Areas of landslides Sanish, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Snsh NW-I. Murphy, E.C., 2010, Areas of landslides Sanish, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Snsh NW-I. Murphy, E.C., 2010, Areas of la



Murphy, E.C., 2010, Areas of landslides Sanish SW, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Snsh SW-I. A total of 331 landslides were mapped in this quadrangle covering an area of 4,930 acres. The landslides ranged from small isolated slides of less than one acre to large complex slides that covered up to 352 acres. The majority of landslides in this map occur in the Missouri River Valley, now occupied by Lake Sakakawea, and the associated drainages of Bear Den and Boggy creeks as well as Horse Camp, Foreman, and Writing Rock coulees. Landslides are prevalent in this area because approximately 14,000 years ago glacial ice diverted the ancestral Missouri River out of the New Town Sag cutting this narrow, steeply walled channel. The over-steepened slopes of this channel were, and to some degree still are, very susceptible to slope failure. Many of these landslides are hundreds, if not thousands, of years old.

Murphy, E.C., 2010, Areas of landslides Schafer, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Shfr-1. Murphy, E.C., 2010, Areas of landslides Schafer SE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Shfr SE-1. Murphy, E.C., 2010, Areas of landslides Sheep Creek, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. ShpC-1. Murphy, E.C., 2010, Areas of landslides Shell Creek Bay, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. ShcB-1. Murphy, E.C., 2010, Areas of landslides Sidney NE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. Sdny NE-1. Murphy, E.C., 2010, Areas of landslides Stocke Buttte, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. StkB-1. Murphy, E.C., 2010, Areas of landslides Tepee Buttes, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. TpeB-1. Murphy, E.C., 2010, Areas of landslides Timber Prong Creek, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. TpeB-1. Murphy, E.C., 2010, Areas of landslides Timber Prong Creek, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. TpeB-1. Murphy, E.C., 2010, Areas of landslides Timber Prong Creek, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. TmPC-1. Murphy, E.C., 2010, Areas of landslides Timber Prong Creek, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. TmPC-1. Murphy, E.C., 2010, Areas of landslides Twins Butte, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. WfdC-1. Murphy, E.C., 2010, Areas of landslides Watford City, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. WfdC-1. Murphy, E.C., 2010, Areas of landslides Watford City NE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. WfdC NE-1. Murphy, E.C., 2010, Areas of landslides Watford City NE, ND Quadrangle: North Dakota Geological Survey 24k Map Series, no. WfdC NE-1.

Outside Publications

Erickson, J.M., Kroeger, T.J., Hoganson, J.W., and Holland, F.D., Jr. 2010, Late Maastrichtian palynomorphs from the Linton Member of the Fox Hills Formation in south-central North Dakota: Geological Society of America Abstracts and Programs, p. 250.

Hoganson, J.W. and Person, J.J., 2010, Tooth puncture marks on a skull of *Dinictis* (Nimravidae) from the Oligocene Brule Formation of North Dakota attributed to predation by *Hyaenodon* (Hyaenodontidae): Society of Vertebrate Paleontology 70th Anniversary Meeting Programs and Abstracts, p. 106A.

LeFever, J.A. and Nordeng, S.H., 2010, Williston Basin, North Dakota: Bakken Petroleum System Update, AAPG-Energy and Minerals Division Gas Shales Technical Committee, p. 2-5.

LeFever, J.A. and Nordeng, S.H., 2010, Cyclic Sedimentation Patterns of the Mississippian-Devonian Bakken Formation, North Dakota, AAPG-ICE Abstract, Search and Discovery #90108.

Nordeng, S.H., LeFever, J.A., Anderson, F.J., and Johnson, E.H., Oil Generation Rates and Subtle Structural Flexure: Keys to Forming the Bakken Sweetspot in the Parshall Field of Mountrail County, North Dakota, Colorado Oil and Gas Association, July 10, 2010, Search and Discovery #20094.

Nordeng, S.H., LeFever, J.A., Anderson, F.J. and Johnson, E.A., 2010, Oil Generation Rates and Subtle Structural Flexure: Keys to Forming the Bakken Sweetspot in the Parshall Field of Mountrail County, North Dakota, AAPG-RMS Abstract, Search and Discovery #90106.

Rendall, B., Erickson, J.M., and Hoganson, J.W. 2010, New, rare echinoid records from the Pierre-Fox Hills transition (Late Cretaceous: Campanian-Maastrichtian) in the Williston Basin: Geological Society of America Abstracts and Programs, p. 249-250.

Schoell, M., and LeFever, J.A., 2010, Carbon and Hydrogen Isotope Systematics in Bakken Shale Gases: Prediction of Rock and Fluid Properties from Gas Isotopes as Guide to Mudgas Isotope Data Interpretations: AAPG-ACE Abstract, Search and Discovery #90104.