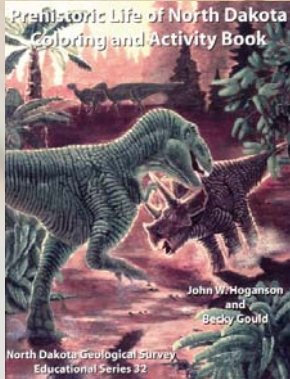


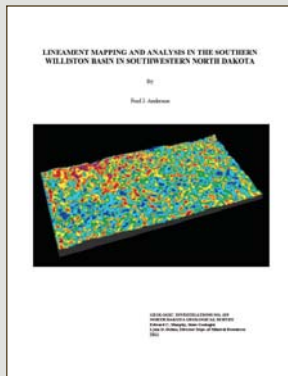
NEW PUBLICATIONS

Educational Series



Hoganson, J.W., and Gould, B., 2011, Prehistoric Life of North Dakota Coloring and Activity Book, North Dakota Educational Series, No. 32, 48 p. A prehistoric life of North Dakota coloring and activity book has recently been published and is now available as Educational Series 32. The cover art and illustrations in the book were done by Becky Gould, Survey paleontologist, and John Hoganson, State Paleontologist, provided the text. The book is arranged in chronological order beginning with marine Paleozoic fossils found in oil well cores and ending with illustrations of animals that lived in North Dakota during the last Ice Age. The book follows the story line of the Corridor of Time fossil exhibit in the North Dakota Heritage Center and will be consistent with the fossil exhibits planned for the new Geologic Time Exhibit Gallery being constructed as part of the Heritage Center expansion. The book was planned so that some concepts presented would be a challenge to young children without guidance from a parent or guardian. We anticipate that the book will provide an appreciation of the diversity and wonders of the prehistoric animals and plants that lived in North Dakota in the geologic past, and perhaps inspire young scientists. Price: \$2.00

Geologic Investigations



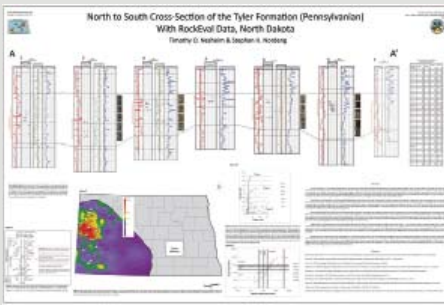
Anderson, F.J., 2011, Lineament Mapping and Analysis in the Southern Williston Basin in Southwestern North Dakota, North Dakota Geological Survey Geologic Investigations, No. 129, 27 p. GI-129 presents the results of a recently completed contemporary lineament mapping and analysis investigation completed within the Dickinson 1:250,000 scale quadrangle in the southern Williston Basin in southwestern North Dakota. This publication consists of a series of six map poster plates and a brief summary report that describes the investigation's data sources, methodology, and results that support ongoing NDGS petroleum geology related investigations. A comparative spatial analysis and discussion of the relationship between mapped lineaments and currently producing and non-producing oil and gas wells and fields in southwestern North Dakota is included. Price: \$15.00 paper or \$5.00 for pdf on CD or \$25 for shape file on CD.



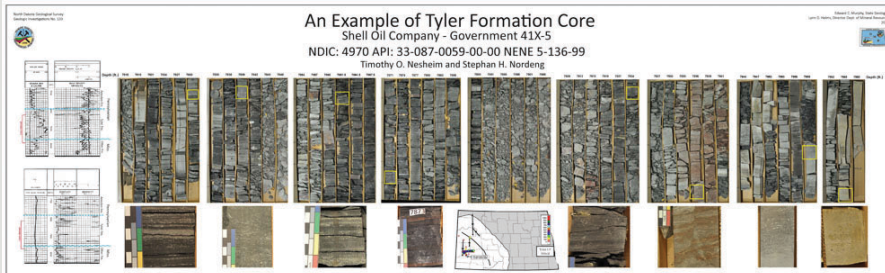
Anderson, F.J., 2010, Locations of Sand and Gravel Sites in North Dakota, ND Geological Survey Geologic Investigations, No. 130, 1:500,000 scale map. Compilation of the distribution and locations of previously mapped sand and gravel resources, supplemented with the locations of historic and inactive sand and gravel extraction sites and locations of recent NDGS sand and gravel sampling conducted in support of ongoing proppant and industrial sand resource investigations in North Dakota. Available in traditional paper map format (\$15.00), or on CD with pdf and shape files (\$25.00).



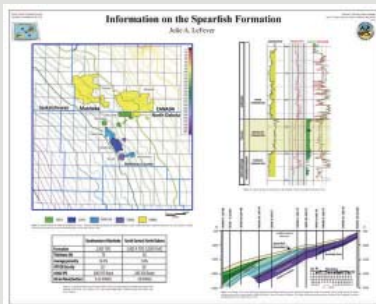
Anderson, F.J., Gudmunsen, C.B., Hall, B.N., Ries, A.J., Christensen, A.R., Bubach, B.J., 2010, Shallow Gas Field Screening in North Dakota: Field Data Report (2009 & 2010) for Selected Counties, ND Geological Survey Geologic Investigations, No. 131. GI-131 is a field data report which presents the shallow gas field screening data collected from ground-water wells across 34 counties in North Dakota during the 2009 and 2010 field seasons. This Geologic Investigation is a supplement to the previously completed GI-74 which contains the field screening data for 18 previously completed counties, where field screening was conducted during the 2006 – 2008 field seasons. Information on shallow gas field screening methodology, Flame-Ionization Detector (FID) instrument responses, and general well construction information are included. Price: \$5.00 for pdf on CD or available online.



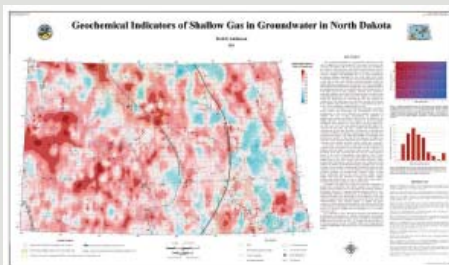
Nesheim, T.O. and Nordeng, S.H., 2011, North to South Cross-Section of the Tyler Formation (Pennsylvanian) with RockEval Data, North Dakota, ND Geological Survey Geologic Investigations, No. 132, poster. GI-132 presents recently produced RockEval data from Tyler Formation core samples along with a preliminary resistivity map of shale within the Tyler Formation. These two data sets indicate that the Tyler Formation contains organic-rich, thermally mature, oil-saturated shales that extend throughout most of western North Dakota. Available in traditional paper map format (\$10.00) or on CD (\$5.00).



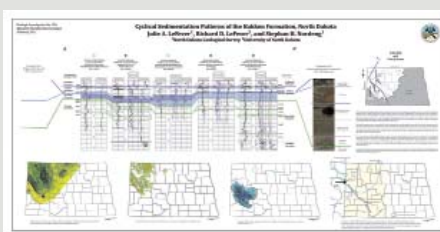
Nesheim, T.O. and Nordeng, S.H., 2011, An Example of Tyler Formation Core, ND Geological Survey Geologic Investigations, No. 133, poster. GI-133 is a poster displaying Tyler Formation core and the corresponding electric log from Shell Oil Company's Government 41X-5 of Slope County, southwestern North Dakota. Available in traditional paper map format (\$10.00) or on CD (\$5.00).



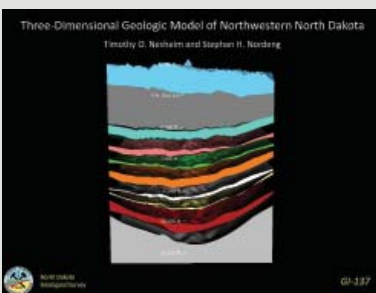
LeFever, J.A., 2011, Information on the Spearfish Formation, ND Geological Survey Geologic Investigations, No. 134, poster. This poster contains a structure map of the Madison Unconformity in portions of Bottineau, Renville, and McHenry counties. The Spearfish Formation producing oil fields are also plotted on this map. A typical log of the Spearfish Formation from the current play area as well as a table comparing and contrasting the pay zone in southwestern Manitoba to that in north-central North Dakota are included. A generalized cross section showing the relationship between the Spearfish Formations and underlying rocks is presented for a trace along the North Dakota/Manitoba border. Available in paper format for (\$10.00) or on CD (\$5.00).



Anderson, F.J., 2011, Geochemical Indicators of Shallow Gas in Groundwater in North Dakota, North Dakota Geological Survey Geologic Investigations No. 135. GI-135 is a 1:1,000,000 scale map that presents the results of a contemporary analysis of shallow gas ground-water geochemical indicators compared with the locations and results of previously completed shallow gas field screening data across the state, supplemented with a brief discussion of the relationships between interpreted ground-water geochemistry and historic and recent shallow gas occurrences found in wells across North Dakota. Available in traditional paper map format (\$10.00), or on CD with pdf and shape files for (\$25.00).



LeFever, J.A., LeFever, R.D., and Nordeng, S.H., 2011, Cyclical Sedimentation Patterns of the Bakken Formation, North Dakota, ND Geological Survey Geologic Investigations, No. 136, poster. This poster provides an up-to-date look at the nomenclatural changes that are occurring to the Bakken Formation focusing on the section between the Lower Bakken Shale and the underlying Three Forks Formation. Included in this poster is a correlation cross-section extending from Canada through to southwestern North Dakota, maps of the horizons discussed and a brief discussion. Available in traditional paper map format (\$15.00) or on CD (\$5.00).



Nesheim, T.O. and Nordeng, S.H., 2011, Three Dimensional Geologic Model of Northwestern North Dakota, ND Geological Survey Geologic Investigations, No. 137, powerpoint presentation. GI-137 is a 3-D model of the geology of northwestern North Dakota. This model extends from the surface down to the crystalline Precambrian basement and contains several important oil and gas producing formations. The model also shows the distribution and orientation of horizontal wells drilled in the Bakken-Three Forks system. Available on CD with PDF, extended PowerPoint, and Petra database (\$25.00).

Landslide Maps

Murphy, E.C., 2011, Areas of landslides Belden Quadrangle, North Dakota: North Dakota Geological Survey 24K:Bldn-I.



Murphy, E.C., 2011, Areas of landslides Belden SW Quadrangle, North Dakota: North Dakota Geological Survey 24K:Bldn SW-I. Eighteen landslides were mapped in this quadrangle. These landslides occupy an area of 39 acres (158,000 square meters) or approximately 0.1% of the Belden SE quadrangle. The largest landslide or landslide complex mapped in this quadrangle was 16 acres (64,000 square meters) and the smallest was only 0.3 acres (760 square meters). Landslides were mapped from 1:20,000 scale aerial photographs.

Murphy, E.C., 2011, Areas of landslides Belden SE Quadrangle, North Dakota: North Dakota Geological Survey 24K:Bldn SE-I.

Murphy, E.C., 2011, Areas of landslides Charlson NE Quadrangle, North Dakota: North Dakota Geological Survey 24K:Chrl NE-I.

Murphy, E.C., 2011, Areas of landslides Charlson NW Quadrangle, North Dakota: North Dakota Geological Survey 24K:Chrl NW-I.

Murphy, E.C., 2011, Areas of landslides Charlson Quadrangle, North Dakota: North Dakota Geological Survey 24K:Chrl-I.

Murphy, E.C., 2011, Areas of landslides Charlson SW Quadrangle, North Dakota: North Dakota Geological Survey 24K:Chrl SW-I.

Murphy, E.C., 2011, Areas of landslides Clearwater Lake Quadrangle, North Dakota: North Dakota Geological Survey 24K:ClwL-I.

Murphy, E.C., 2011, Areas of landslides Cottonwood Lake Quadrangle, North Dakota: North Dakota Geological Survey 24K:CtwL-I.

Murphy, E.C., 2011, Areas of landslides Epworth Quadrangle, North Dakota: North Dakota Geological Survey 24K:Epwr-I.

Murphy, E.C., 2011, Areas of landslides Epworth NW Quadrangle, North Dakota: North Dakota Geological Survey 24K:Epwr NW-I.

Murphy, E.C., 2011, Areas of landslides Epworth SE Quadrangle, North Dakota: North Dakota Geological Survey 24K:Epwr SE-I.

Murphy, E.C., 2011, Areas of landslides Lostwood Quadrangle, North Dakota: North Dakota Geological Survey 24K:Lstd-I.

Murphy, E.C., 2011, Areas of landslides Manitou Quadrangle, North Dakota: North Dakota Geological Survey 24K:Mntu-I.

Murphy, E.C., 2011, Areas of landslides Rat Lake Quadrangle, North Dakota: North Dakota Geological Survey 24K:RatL-I.

Murphy, E.C., 2011, Areas of landslides Rat Lake SE Quadrangle, North Dakota: North Dakota Geological Survey 24K:RatL SE-I.

Murphy, E.C., 2011, Areas of landslides Rat Lake SW Quadrangle, North Dakota: North Dakota Geological Survey 24K:RatL SW-I.

Murphy, E.C., 2011, Areas of landslides Robinson Lake Quadrangle, North Dakota: North Dakota Geological Survey 24K:RbsL-I.



Murphy, E.C., 2011, Areas of landslides Ross NW Quadrangle, North Dakota: North Dakota Geological Survey 24K:Ross NW-I. A total of 31 landslides were mapped in this quadrangle. These landslides occupy an area of 491 acres (1,982,000 square meters) or 1.4% of the Ross NW quadrangle. The largest landslide or landslide complex mapped in this quadrangle was 98 acres (396,000 square meters) and the smallest was 0.6 acres (2,400 square meters). Landslides were mapped off of 1:20,000 scale aerial photographs.

Murphy, E.C., 2011, Areas of landslides Shell Lake Quadrangle, North Dakota: North Dakota Geological Survey 24K:ShlL-I.

Murphy, E.C., 2011, Areas of landslides Sikes Dam Quadrangle, North Dakota: North Dakota Geological Survey 24K:SksD-I.

Murphy, E.C., 2011, Areas of landslides Stanley Quadrangle, North Dakota: North Dakota Geological Survey 24K:Stnl-I.

Murphy, E.C., 2011, Areas of landslides Tioga Quadrangle, North Dakota: North Dakota Geological Survey 24K:Tiog-I.

Murphy, E.C., 2011, Areas of landslides Tioga SE Quadrangle, North Dakota: North Dakota Geological Survey 24K:Tiog SE-I.

Murphy, E.C., 2011, Areas of landslides White Earth Quadrangle, North Dakota: North Dakota Geological Survey 24K:WhtE-I.

Outside Publications

Peppe, D.J., and others, including Hoganson, J.W., 2011, Sensitivity of leaf size and shape to climate: global patterns and paleoclimatic applications: *New Phytologist*, No. 190, p. 724-739.

LeFever, J.A. and Nordeng, S.H., 2011, AAPG – Energy Minerals Division Gas Shales Technical Committee, AAPG Committee Report, 1 p.

LeFever, J.A., Nordeng, S.H., LeFever, R.D., Anderson, F.J., and Nesheim, T.O., 2011, Core Workshop -- Other Unconventional Reservoirs of the Williston Basin, Core Workshop Volume: Rocky Mountain Section of the American Association of Petroleum Geologists, Cheyenne, Wyo, June 25-26, 87 p.