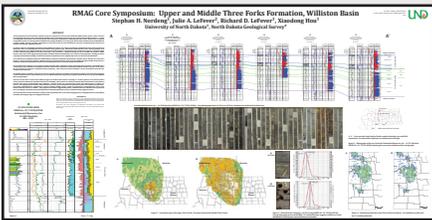


NEW PUBLICATIONS

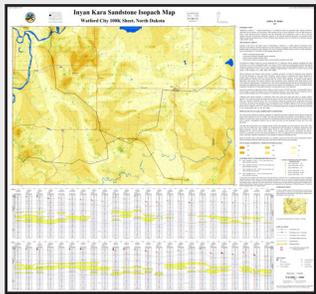
Geological Investigations



Anderson, F.J., 2015, Earthquakes in North Dakota: North Dakota Geological Survey, Geologic Investigations No. 187. GI-187 is a 1:750,000 scale map that depicts the locations of earthquakes that have occurred in North Dakota, as compiled from available earthquake information catalogs, databases, and seismological publications. The locations of operating seismic monitoring stations in the state are also included. Seismological data, including reported earthquake magnitudes and intensities, along with estimated depths of earthquake occurrence, are shown. Available as a traditional paper map (\$10.00) or as a PDF on CD (\$5.00).

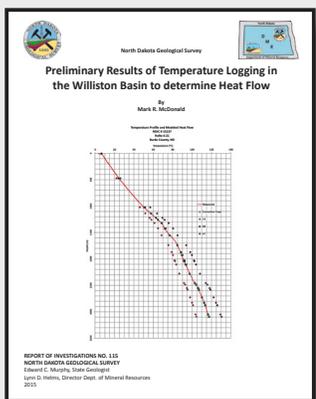


Nordeng, S.H., LeFever, J.A., LeFever, R.D., Hou, Xiaodong, 2015, RMAG Core Symposium: Upper and Middle Three Forks Formation, Williston Basin: North Dakota Geological Investigations No. 188. GI-188 presents an overview of the Three Forks Formation with emphasis on the Continental Resources, Inc. – 1-22H Charlotte (SWSE Sec. 22, T152N, R99W). Poster includes annotated MRI log, examples of NMR T2 relaxation times, upper Three Forks isopach, and production. Available as a traditional paper map (\$10.00) or as a PDF on CD (\$5.00).



Bader, J.W., 2015, Inyan Kara Sandstone Isopach Map, Watford City 100K Sheet, North Dakota: North Dakota Geological Survey, Geologic Investigations No. 189. GI-189 is a 1:100,000 scale isopach map of Inyan Kara sandstones that may potentially be used for produced water injection/disposal. Estimates of reservoir quality are presented for each well along with well status. Roads, cities, and other geographical features are also shown on the map. GI-189 also includes two detailed cross-sections that trend across the entire 100K sheet. The cross-sections show sandstone thicknesses as well as lateral continuity of potentially injectable sandstones. Available as a traditional paper map (\$20.00) or as a PDF on CD (\$5.00) with shape files, cross-sections, and supporting metadata.

Reports of Investigation

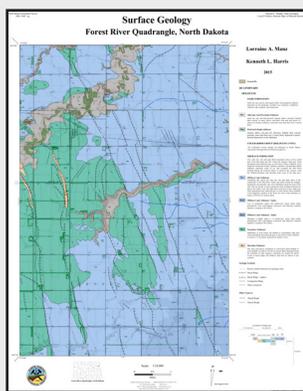


McDonald, M.R., 2015, Preliminary Results of Temperature Logging in the Williston Basin to Determine Heat Flow: North Dakota Geological Survey, Report of Investigation No. 115. The North Dakota Geological Survey (NDGS) has embarked on a temperature survey of the Williston Basin, North Dakota. To date, 23 temporarily abandoned oil and gas wells have been logged using a memory tool equipped with a temperature, gamma-ray, and casing collar locator probe lowered by a slickline. Several methods were used to estimate heat flow at the various locations including calculations based on average laboratory values of thermal conductivity, existing heat flow maps, the Bullard Method, and finding the harmonic mean of thermal conductivity. Available as a PDF on CD (\$5.00).

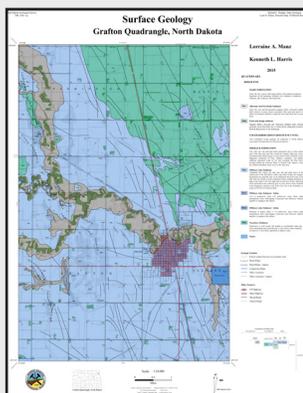
Surface Maps

Manz, L.A., and Harris, K.L., 2015, Geologic map of the Ardoch Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Ardh-sg. Paper \$15, CD \$5.

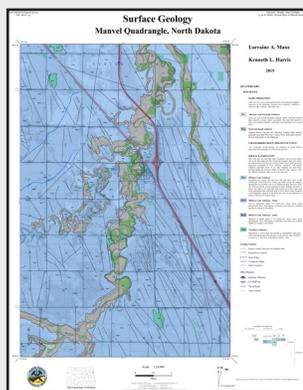
Manz, L.A., and Harris, K.L., 2015, Geologic map of the Big Woods Quadrangle, Minnesota – North Dakota: North Dakota Geological Survey 24k Map Series no. BgWd-sg. Paper \$15, CD \$5.



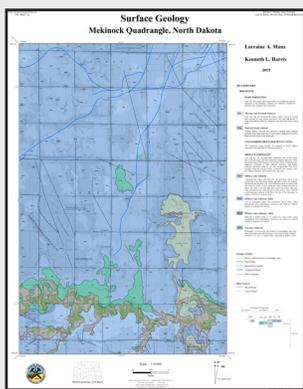
Manz, L.A., and Harris, K.L., 2015, Geologic map of the Forest River Quadrangle, North Dakota – North Dakota Geological Survey 24k Map Series no. FrsR-sg. This map shows the surface geology of the Forest River 7.5-minute quadrangle superimposed on a topographic background. It is one of a set of thirty-two 24k maps that cover the 30 x 60-minute area depicted on the USGS' Grafton 100k topographic sheet. Lacustrine sediments of the Sherack Formation, deposited between about 9,900 and 9,500 B.P. during the Emerson Phase of Glacial Lake Agassiz, dominate the surface geology of the Red River Valley in eastern North Dakota and northwestern Minnesota. Offshore sediments (blue) consist of thinly laminated clay, clayey silt, silty clay, and silt. Saline areas are depicted in slightly darker shades of blue. Nearshore sediments (blue-green) are sandier and contain gravel in beach ridges, which are indicated on the map by hatched lines. Differential compaction ridges and ice drag marks are shown as blue and green lines respectively. Black lines represent lineations of uncertain or unknown origin. Paper \$15, CD \$5.



Manz, L.A., and Harris, K.L., 2015, Geologic map of the Grafton Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Graft-sg. This map shows the surface geology of the Grafton 7.5-minute quadrangle superimposed on a topographic background. It is one of a set of thirty-two 24k maps that cover the 30 x 60-minute area depicted on the USGS' Grafton 100k topographic sheet. Lacustrine sediments of the Sherack Formation, deposited between about 9,900 and 9,500 B.P. during the Emerson Phase of Glacial Lake Agassiz, dominate the surface geology of the Red River Valley in eastern North Dakota and northwestern Minnesota. Offshore sediments (blue) consist of thinly laminated clay, clayey silt, silty clay, and silt. Saline areas are depicted in slightly darker shades of blue. Nearshore sediments (blue-green) are sandier and contain gravel in beach ridges, which are indicated on the map by hatched lines. Ice drag marks are shown as green lines. Black lines represent lineations of uncertain or unknown origin. Paper \$15, CD \$5.



Manz, L.A., and Harris, K.L., 2015, Geologic map of the Manvel Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Mnlv-sg. This map shows the surface geology of the Manvel 7.5-minute quadrangle superimposed on a topographic background. It is one of a set of thirty-two 24k maps that cover the 30 x 60-minute area depicted on the USGS' Grafton 100k topographic sheet. Lacustrine sediments of the Sherack Formation, deposited between about 9,900 and 9,500 B.P. during the Emerson Phase of Glacial Lake Agassiz, dominate the surface geology of the Red River Valley in eastern North Dakota and northwestern Minnesota. Offshore sediments (blue) consist of thinly laminated clay, clayey silt, silty clay, and silt. Saline areas are depicted in slightly darker shades of blue. Differential compaction ridges and ice drag marks are shown as blue and green lines respectively. Black lines represent lineations of uncertain or unknown origin. Paper \$15, CD \$5.

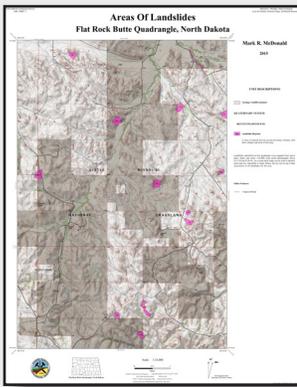


Manz, L.A., and Harris, K.L., 2015, Geologic map of the Meckinock Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Mknk-sg. This map shows the surface geology of the Meckinock 7.5-minute quadrangle superimposed on a topographic background. It is one of a set of thirty-two 24k maps that cover the 30 x 60-minute area depicted on the USGS' Grafton 100k topographic sheet. Lacustrine sediments of the Sherack Formation, deposited between about 9,900 and 9,500 B.P. during the Emerson Phase of Glacial Lake Agassiz, dominate the surface geology of the Red River Valley in eastern North Dakota and northwestern Minnesota. Offshore sediments (blue) consist of thinly laminated clay, clayey silt, silty clay, and silt. Saline areas are depicted in slightly darker shades of blue. Differential compaction ridges and ice drag marks are shown as blue and green lines respectively. Black lines represent lineations of uncertain or unknown origin. Paper \$15, CD \$5.

Manz, L.A., and Harris, K.L., 2015, Geologic map of the Minto Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Mnto-sg. Paper \$15, CD \$5.

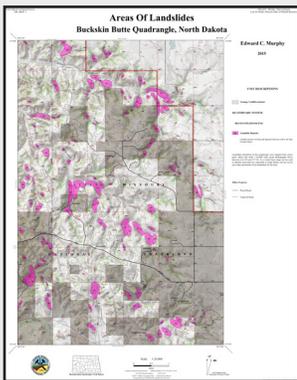
Manz, L.A., and Harris, K.L., 2015, Geologic map of the Oakwood Quadrangle, North Dakota: North Dakota Geological Survey 24k Map Series no. Okwd-sg. Paper \$15, CD \$5.

Landslide Maps



McDonald, M.R., 2015, Areas of landslides Flat Rock Butte, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. FIRB - I. Thirteen landslides were mapped within the Flat Rock Butte Quad. The slides principally occur along the slopes of steep topography. These landslides occupy a total area of approximately 270 acres with the largest covering 32 acres. \$5 for paper. \$5 for CD with shape files, no charge if emailed.

McDonald, M.R., 2015, Areas of landslides Squaw Gap, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. SqwG - I. Fifteen landslides were mapped within the Squaw Gap Quad. The slides primarily occur along the sides of steep topography. The largest slide covers an area of approximately 84 acres and the total area of slides was 375 acres. \$5 for paper. \$5 for CD with shape files, no charge if emailed.

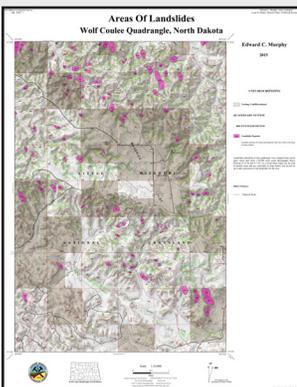


Murphy, E.C., 2015, Areas of landslides Buckskin Butte, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. BksB - I. A total of 134 landslides were mapped in this quadrangle. These landslides are scattered throughout the map and occupy an area of 1,590 acres (6,440,000 square meters) or 5 % of the Buckskin Butte quadrangle. The largest landslide or landslide complex mapped in this quadrangle was 61 acres (250,000 square meters) and the smallest was 1.2 acres (4800 square meters). Landslides were mapped off of 1:20,000 scale aerial photographs. \$5 for paper. \$5 for CD with shape files, no charge if emailed.

Murphy, E.C., 2015, Areas of landslides Cinnamon Creek, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. CnmC - I. \$5 for paper. \$5 for CD with shape files, no charge if emailed.

Murphy, E.C., 2015, Areas of landslides Grassy Butte, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. GrsB - I. \$5 for paper. \$5 for CD with shape files, no charge if emailed.

Murphy, E.C., 2015, Areas of landslides Ice Box Canyon, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. IcBC - I. \$5 for paper. \$5 for CD with shape files, no charge if emailed.



Murphy, E.C., 2015, Areas of landslides Wolf Coulee, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wlfc - I. A total of 110 landslides were mapped in this quadrangle. Landslides are scattered throughout the map, occupying an area of 810 acres (3,280,000 square meters) or 2.5 % of the Wolf Coulee quadrangle. The largest landslide or landslide complex mapped in this quadrangle was 40 acres (160,000 square meters) and the smallest was 1.2 acres (4700 square meters). Landslides were mapped from 1:20,000 scale aerial photographs. \$5 for paper. \$5 for CD with shape files, no charge if emailed.