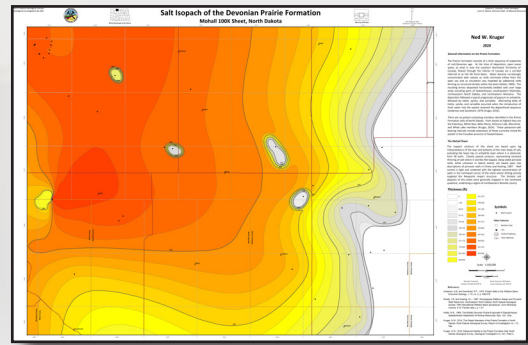
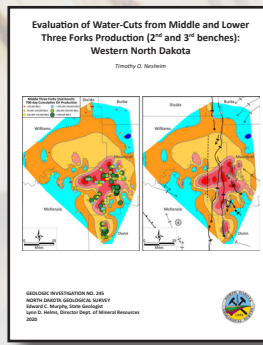
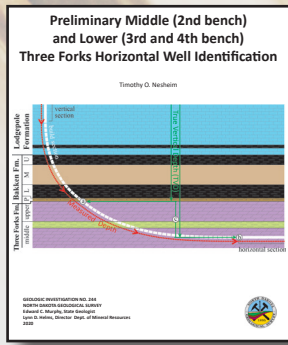
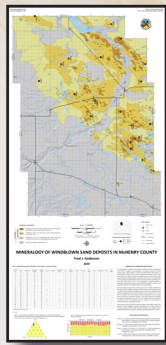


NEW PUBLICATIONS

All Survey publications (maps, posters, and reports) are available for free download from our website (www.dmr.nd.gov/ndgs/Publication_List/). Paper copies of 24K maps are \$5, 100K are \$10, and posters are typically \$15.



Geologic Investigations

- Anderson, F.J., 2020, Mineralogy of Windblown Sand Deposits in McHenry County, North Dakota: North Dakota Geological Survey Geologic Investigations no. 243.
- Nesheim, T.O., 2020, Preliminary Middle (2nd bench) and Lower (3rd and 4th bench) Three Forks Horizontal Well Identification: North Dakota Geological Survey Geologic Investigations no. 244.
- Nesheim, T.O., 2020, Evaluation of Water-Cut from Middle and Lower Three Forks Production (2nd and 3rd benches): Western North Dakota: North Dakota Geological Survey Geologic Investigations no. 245.
- Kruger, N.W., 2020, Salt Isopach of the Devonian Prairie Formation, Mohall 100K Sheet, North Dakota: North Dakota Geological Survey Geologic Investigations no. 246.
- Kruger, N.W., 2020, K₂O Grades of the Potash-containing Members of the Prairie Formation, Mohall 100K Sheet, North Dakota: North Dakota Geological Survey Geologic Investigations no. 247.
- Stollendorf, T.D., 2020, Inyan Kara Sandstone Isopach Map, Belfield 100K Sheet, North Dakota: North Dakota Geological Survey Geologic Investigation no. 248.
- Stollendorf, T.D., 2020, Inyan Kara Sandstone Isopach Map, Dickinson 100K Sheet, North Dakota: North Dakota Geological Survey Geologic Investigation no. 249.
- Stollendorf, T.D., 2020, Inyan Kara Sandstone Isopach Map, Bowman 100K Sheet, North Dakota: North Dakota Geological Survey Geologic Investigation no. 250.

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- Anderson, F.J., 2020, Areas of Landslides Alexander Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Alxr – I.
- Anderson, F.J., 2020, Areas of Landslides Arnegard Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Arnd – I.
- Anderson, F.J., 2020, Areas of Landslides Buford Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Bfrd – I.
- Anderson, F.J., 2020, Areas of Landslides Camp Creek West Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. CmpC W – I.
- Anderson, F.J., 2020, Areas of Landslides Cartwright NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Crwt NE – I.
- Anderson, F.J., 2020, Areas of Landslides Hump Butte Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. HmpB – I.
- Anderson, F.J., 2020, Areas of Landslides Johnson Corner Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. JhnC – I.

- Anderson, F.J., 2020, Areas of Landslides Lankin Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Lnkn – I.
- Anderson, F.J., 2020, Areas of Landslides Mayville North Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Myvl N – I.
- Anderson, F.J., 2020, Areas of Landslides Mayville South Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Myvl S – I.
- Anderson, F.J., 2020, Areas of Landslides McIntosh Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mcln – I.
- Anderson, F.J., 2020, Areas of Landslides Medicine Butte NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. MdcB NE – I.
- Anderson, F.J., 2020, Areas of Landslides Morristown Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mstn – I.
- Anderson, F.J., 2020, Areas of Landslides Porcupine Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Prpn – I.
- Anderson, F.J., 2020, Areas of Landslides Rat Lake SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. RatL SW – I.
- Anderson, F.J., 2020, Areas of Landslides Rawson Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Rwsn – I.
- Anderson, F.J., 2020, Areas of Landslides Schafer Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shfr – I.
- Anderson, F.J., 2020, Areas of Landslides Schafer SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shfr SE – I.
- Anderson, F.J., 2020, Areas of Landslides Shields SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shld SW – I.
- Anderson, F.J., 2020, Areas of Landslides Tatanka Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. TtnL – I.
- Anderson, F.J., 2020, Areas of Landslides Thunder Hawk Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. ThnH – I.
- Anderson, F.J., 2020, Areas of Landslides Trenton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Trnt – I.
- Anderson, F.J., 2020, Areas of Landslides Trenton SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Trnt SW – I.
- Anderson, F.J., 2020, Areas of Landslides Valley City East Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. VlyC E – I.
- Anderson, F.J., 2020, Areas of Landslides Valley City West Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. VlyC W – I.
- Anderson, F.J., 2020, Areas of Landslides Walker Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wlkr – I.
- Anderson, F.J., 2020, Areas of Landslides Watford City Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. WfdC – I.
- Anderson, F.J., 2020, Areas of Landslides Watauga Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wtug – I.
- Anderson, F.J., and Murphy, E.C., 2020, Areas of Landslides Dunn Center NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. DnnC NE – I.
- Anderson, F.J., and Murphy, E.C., 2020, Areas of Landslides Halliday NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hldy NW – I.
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Maike, C.A., 2020, Areas of Landslides Turtle Creek SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Trtc SE - I.

Maike, C.A., 2020, Areas of Landslides Turtle Creek SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Trtc SW - I.

Maike, C.A., 2020, Areas of Landslides Wales Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wals - I.

Maike, C.A., 2020, Areas of Landslides Wilton Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wltn - I.

Maike, C.A., 2020, Areas of Landslides Wilton SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wltn SE - I.

Maike, C.A., 2020, Areas of Landslides Wing Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wing - I.

Maike, C.A., 2020, Areas of Landslides Wing SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wing SE - I.

Maike, C.A., 2020, Areas of Landslides Wing SW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wing SW - I.

Maike, C.A., 2020, Areas of Landslides Woodhouse Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wdhl - I.

Moxness, L.D., 2020, Areas of Landslides Barrie Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Brre - I.

Moxness, L.D., 2020, Areas of Landslides Cayuga Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Cyga - I.

Moxness, L.D., 2020, Areas of Landslides Cayuga NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Cyga NW - I.

Moxness, L.D., 2020, Areas of Landslides Claire City NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Clrc NE - I.

Moxness, L.D., 2020, Areas of Landslides Claire City NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Clrc NW - I.

Moxness, L.D., 2020, Areas of Landslides Cogswell Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Cgwl - I.

Moxness, L.D., 2020, Areas of Landslides Crete Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Crte - I.

Moxness, L.D., 2020, Areas of Landslides Enderlin North Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Endr N - I.

Moxness, L.D., 2020, Areas of Landslides Fairmount NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Frmt NW - I.

Moxness, L.D., 2020, Areas of Landslides Fallon NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Flin NE - I.

Moxness, L.D., 2020, Areas of Landslides Fish Creek Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Fscl - I.

Moxness, L.D., 2020, Areas of Landslides Forman Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Frmn - I.

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Moxness, L.D., 2020, Areas of Landslides Geneseo Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Gns0 - I.

Moxness, L.D., 2020, Areas of Landslides Great Bend Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Grtb - I.

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Moxness, L.D., 2020, Areas of Landslides Hamlin Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hmln - I.

Moxness, L.D., 2020, Areas of Landslides Hankinson Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hnkn - I.

Moxness, L.D., 2020, Areas of Landslides Hankinson SE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hnkn SE - I.

Moxness, L.D., 2020, Areas of Landslides Havana Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hvna - I.

Moxness, L.D., 2020, Areas of Landslides Hoving Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Hvng - I.

Moxness, L.D., 2020, Areas of Landslides Huff Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Huff - I.

Moxness, L.D., 2020, Areas of Landslides Judson Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Jdsn - I.

Moxness, L.D., 2020, Areas of Landslides Kidder Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Kddr - I.

Moxness, L.D., 2020, Areas of Landslides Kindred Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Knrd - I.

Moxness, L.D., 2020, Areas of Landslides Kreiser Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. KrsL - I.

Moxness, L.D., 2020, Areas of Landslides La Mars Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. LMrs - I.

Moxness, L.D., 2020, Areas of Landslides Leonard Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Lnrd - I.

Moxness, L.D., 2020, Areas of Landslides Lidgerwood Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Ldgr - I.

Moxness, L.D., 2020, Areas of Landslides Mantador Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mntd - I.

Moxness, L.D., 2020, Areas of Landslides Marlow Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mrlw - I.

Moxness, L.D., 2020, Areas of Landslides Mooreton East Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mort E - I.

Moxness, L.D., 2020, Areas of Landslides Mooreton NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Mort NW - I.

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Moxness, L.D., 2020, Areas of Landslides Moselle Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. MslL - I.

Moxness, L.D., 2020, Areas of Landslides New Effington NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwEf NE - I.

Moxness, L.D., 2020, Areas of Landslides New Effington NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwEf NW - I.

Moxness, L.D., 2020, Areas of Landslides New Salem Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. NwSl - I.

Moxness, L.D., 2020, Areas of Landslides Newark Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nwrk - I.

Moxness, L.D., 2020, Areas of Landslides Newark NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nwrk NW - I.

Moxness, L.D., 2020, Areas of Landslides Norman Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nrmn - I.

Moxness, L.D., 2020, Areas of Landslides North Almont Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Nalm - I.

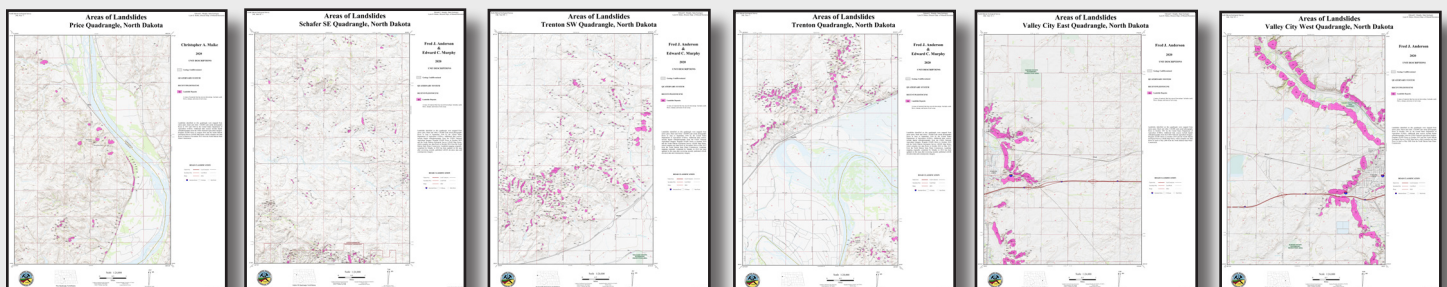
Moxness, L.D., 2020, Areas of Landslides Power Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Pwer - I.

Moxness, L.D., 2020, Areas of Landslides Rutland Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. RtlD - I.

Moxness, L.D., 2020, Areas of Landslides Saint Anthony Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. StAn - I.

Moxness, L.D., 2020, Areas of Landslides Sheldon NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shdn NE - I.

Moxness, L.D., 2020, Areas of Landslides Sheldon NW Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Shdn NW - I.



- Moxness, L.D., 2020, Areas of Landslides Sonora Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Snra - I.
- Moxness, L.D., 2020, Areas of Landslides Stirum Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Strm - I.
- Moxness, L.D., 2020, Areas of Landslides Straubville Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Stbv - I.
- Moxness, L.D., 2020, Areas of Landslides Swan Lake Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. SwnL - I.
- Moxness, L.D., 2020, Areas of Landslides The Hogback Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. THog - I.
- Moxness, L.D., 2020, Areas of Landslides Veblen NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Vbln NE - I.
- Moxness, L.D., 2020, Areas of Landslides Walcott Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wlct - I.
- Moxness, L.D., 2020, Areas of Landslides Wyndmere NE Quadrangle, ND Quadrangle: North Dakota Geological Survey 24K Map Series No. Wynd NE - I.

Reports of Investigations

- Bader, J.W., 2020, Stratigraphic Framework for the Late Devonian Birdbear Formation, North Dakota: North Dakota Geological Survey, RI-125, 15 p., 1 plate.
- Anderson, F.J., 2020, Evaluation of Windblown Sand Deposits in South-Central North Dakota for Potential Use as Proppant: North Dakota Geological Survey, Report of Investigation No. 126, 76 p.

Surface Geology Maps

- Manz, L.A., 2020, Surface Geology of the Moffit Quadrangle, North Dakota: North Dakota Geological Survey, 24K Map Series No. Mfft-sg, 1:24,000.
- Manz, L.A., 2020, Surface Geology of the Moffit NW Quadrangle, North Dakota: North Dakota Geological Survey, 24K Map Series No. Mfft NW-sg, 1:24,000.
- Anderson, F.J., 2020, Surface Geology of the Fargo North Quadrangle: North Dakota Geological Survey, 24K Map Series No. Frgo N-sg, 1:24,000.
- Anderson, F.J., 2020, Windblown Sand Deposits, Riga Quadrangle: North Dakota Geological Survey, 24K Map Series No. Riga-s, 1:24,000.

Outside Publications

- Anderson, F.J., 2020, Mineralogy of Eolian Sand Deposits in North-Central North Dakota Evaluated for Use as In-Basin Sourced Proppant, Unconventional Shale Systems: From Source-Rocks to Reservoirs, Geological Society of America Abstracts with Programs, v. 52, no. 6., doi: 10.1130/abs/2020AM-358685.
- Bader, J.W., 2020, Structural Inheritance and the Role of Basement Anisotropies in the Laramide Structural and Tectonic Evolution of the Wyoming Craton: Implications for Origin and Evolution of Deep Lithospheric Structures: Geological Society of America Abstracts with Programs, v. 52, no. 6.
- Bader, J.W., 2020, Structural Inheritance for the Laramide of Wyoming and Montana: Implications for Basement Architecture of the Trans-Hudson Orogen and Development of Foreland Basins: American Association of Petroleum Geologists, AAPG Search and Discovery Article.
- Drumheller, S.K., and Boyd, C.A., 2020, Biostratigraphic alterations of a hadrosaur 'mummy' suggest an unexpected pathway for soft tissue preservation: Journal of Vertebrate Paleontology, Abstracts with Programs, v. 40, no. 3 (supplement).
- Korth, W.W., Boyd, C.A., Emry, R.J., Person, J.J., 2020, Marsupials (Mammalia, Metatheria) from the Brule Formation (Whitneyan, Oligocene) North Dakota: Journal of Paleontology, The Paleontological Society, p.1-12. 0022-3360/20/1937-2337 doi: 10.1017/jpa.2020.41.
- Kruger, N.W., 2020, Reducing Laboratory Costs by Estimating Total Rare Earth Concentrations from Seven or Fewer Analyzed Elements in Western North Dakota Coals: Geological Society of America Abstracts with Programs, v. 52, no. 6., doi: 10.1130/abs/2020AM-359407.
- Moxness, L.D., 2020, Critical Element Associations with Rare Earths and Ash Yields in Fort Union Group Lignites, Williston Basin, North Dakota: Geological Society of America Abstracts with Programs, v. 52, no. 6, doi: 10.1130/abs/2020AM-358754.

