

OPEN-FILE REPORT OFR16-4
Preliminary surficial geologic map of the Northern Arrowhead area,
St. Louis and Lake Counties, northeastern Minnesota

SURFICIAL GEOLOGIC MAP

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scale 1:100,000

2019

This Map has not been thoroughly reviewed and edited to conform to formal publication standards of the Minnesota Geological Survey.

Funding for the map and associated documents was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizens Commission on Minnesota Resources, and the Boards of Commissioners of Lake and St. Louis Counties.

This year and this part of the Open-File Report contains 2018-2019 data, reports and GIS files relating to the surficial geology and is provided in the following formats:

1. NA_SurficialGeology2019.pdf—Surficial geologic map in pdf format
2. ESRI GIS files; Map package NA_SurficialGeology2019.mpk, ESRI map package for versions of ArcGis 10.2-10.7, placed within OFR16_4 archive in the University of Minnesota Archives (UDC) <http://hdl.handle.net/11299/183258> (contact: Richard Lively, MGS)

1. GEOLOGIC MAP

The map covers an irregular area that extends from the western border of St. Louis county boundary to the eastern border of Lake County thence south to latitude 48°00' on the west and central areas, thence south to latitude 47°45' on the eastern part of the study area. It is the fourth in a series of 4 surficial maps that collectively will provide data and interpretations for county geologic atlases of Lake and St. Louis Counties.

2. GIS FILES

The data and results of the project are provided as ArcGis shape and geodatabase files compiled within an ArcGis 10 project that opens when the map package (mpk) file is downloaded and unpacked. Local copies of the files are created on the local computer (usually in C:\documents\ArcGis\Packages).

All gis files are in UTM coordinates, zone 15N, NAD83 projection.

A list of the files in the map package is given below:

Ofr_sg_2019_NA.mxd-- Arcgis mxd containing the gis files, within the map package

cities.shp—point file showing city locations and names within the study area

lakes_clip.shp—polygon file showing locations of lakes

thintobedrock.shp— polygon file showing areas where the bedrock is thought to be within approximately 10 feet of the land surface, starting 200m from outcrops. No label attributes.

qdi_locations.shp—point file showing locations of Quaternary sample locations

peat_clp—polygon file showing locations of peat clipped to study area

streams_StLouis, streams_Lake_Erase—line files showing locations of streams within the study area. Flow lines within lakes removed.

Roads, _StLouis, Lake—line file showing roads in study area

GlacialAndSurficialLines—line file of geomorphic line symbols, ESRI Representations.

Sgpg_na_table.shp—Surficial geology polygon file showing locations of the mapped surficial geology in the Southwestern Arrowhead region for the 2018 time period. Attributes include unit descriptions, map labels and additional geological information. Map labels are explained on the map PDF.

papg_na_sg.shp—polygon (outline) of map area

cwi_strat_loc.shp—point file showing location of water wells from CWI.

Outcrop.shp—polygon file showing location of bedrock outcrop

VoyageursNP—outline showing the location of Voyageurs National Park

Boundary_waters_canoe_area_wilderness—outline showing BWCAW in the study area

Printed copies of the map (42"x72", scale 1:100,000) can be requested from MGS Map Sales--612-626-2969. Prints can be provided at 50 percent reduction as well.