

SURFICIAL GEOLOGY OF THE LISLE 7.5-MINUTE QUADRANGLE, BROOME AND TIOGA COUNTIES, NEW YORK

prepared by
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DESCRIPTION OF MAP UNITS

Holocene

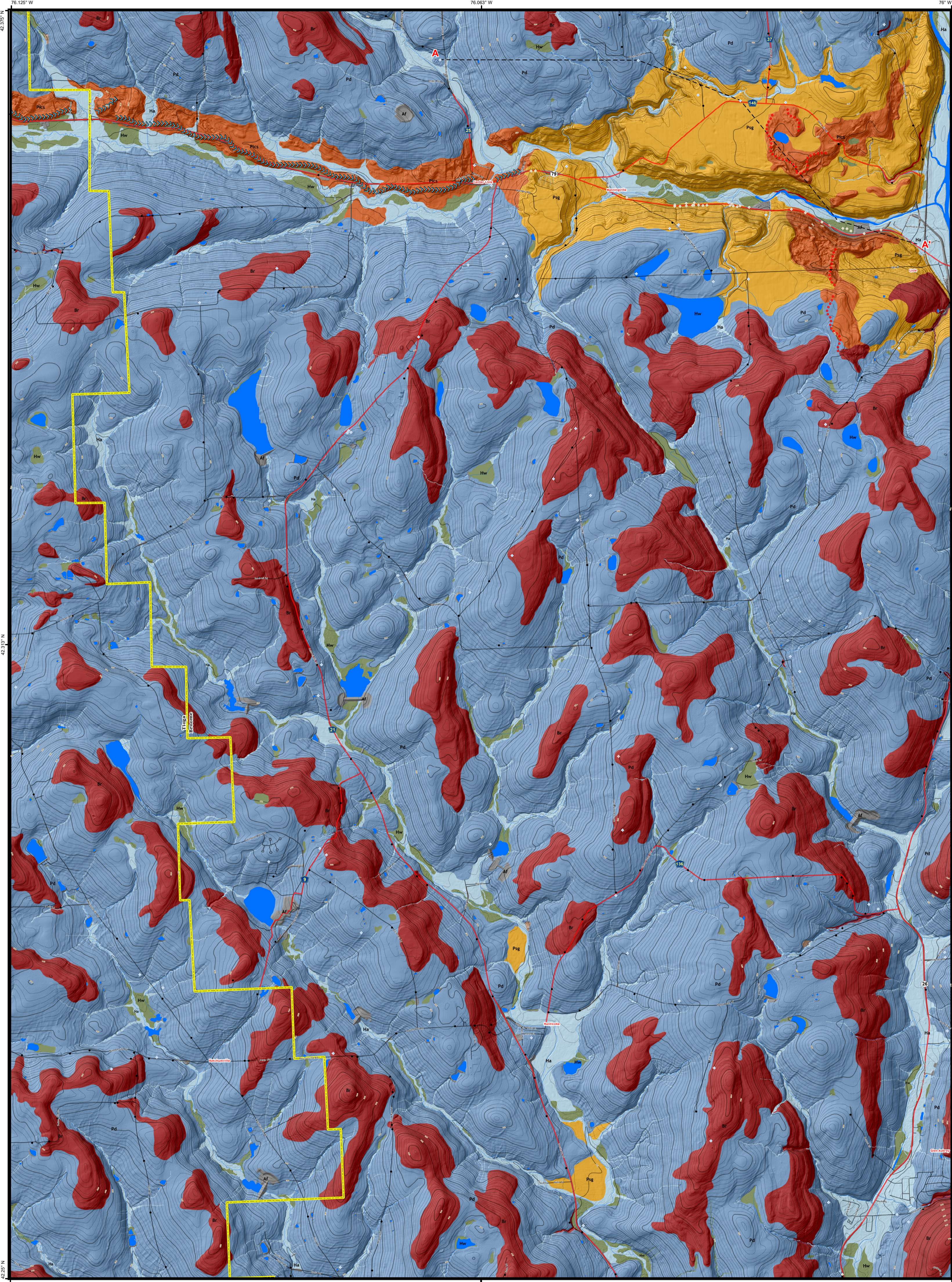
- Af** **Artificial fill (Af)**
This unit is generally composed consists of coarse-to-fine materials, such as large cement mounds and/or crushed rock, which have been anthropogenically transported and used for construction purposes.
- Ha** **Stratified silt, sand and gravel (Ha)**
Sorted and stratified silt, sand, and gravel, deposited by rivers and streams. May include cobbles and boulders. Inferred as post-glacial alluvium and includes modern channel, over-bank and fan deposits.
- Hw** **Wetland deposit (Hw)**
Peat, muck, marl, silt, clay or sand deposited in association with wetland environments. Various sediments can be present at transitional boundaries from one facies to another.

Pleistocene

- Plsc** **Silt and clay (Plsc)**
Stratified, fine-grained sediment consisting of fine sand, silt and clay size particles. Inferred to have been deposited in mid-shore to deep water settings of glacial lakes. May include marl, rythmites, and varves.
- Ps** **Stratified sand (Ps)**
Well-sorted and -stratified sand, deposited by fluvial, lacustrine or eolian processes. Inferred as deposits associated with distal glacial environments.
- Psg** **Stratified sand and gravel (Psg)**
Well-sorted and -stratified sand and gravel. May include cobbles and boulders. Inferred to be delta, fan or lag deposits in glacial channels or near former ice margins.
- Pcsg** **Cemented sand and gravel (Pcsg)**
Poorly-sorted and matrix-supported sand and gravel in most locations. Matrix consists of well-sorted sands cemented with well developed calcite or silicate rinds around clasts. Clasts are predominately from local Paleozoic bedrock but include exotic lithologies of granite and gneiss and range in size widely from pebble gravel to cobbles. Inferred to be subaqueous or proglacial outwash deposits.
- Pics** **Cobbles to sand (Pics)**
Stratified, ice contact deposits; variable coarse-grained sediment consisting of boulders to sand size particles. Inferred to have been deposited along an ice margin. May include interbedded coarse lenses of gravel and/or clast-supported diamicton (flow till).
- Pd** **Diamicton (Pd)**
An admixture of unsorted sediment ranging from clay to boulders. Generally matrix-supported, massive and clast-rich.
- Pdcs** **Diamicton (Pdcs)**
An admixture of unsorted sediment ranging from clay to boulders. Generally clast-supported, massive and clast-rich.

Pre-Pleistocene

- Br** **Bedrock (Br)**
Non-glacially derived hard rock, pre-Pleistocene in age. May be covered by up to a meter with diamicton, sand and gravel, or sand and clay in areas marked as Br.



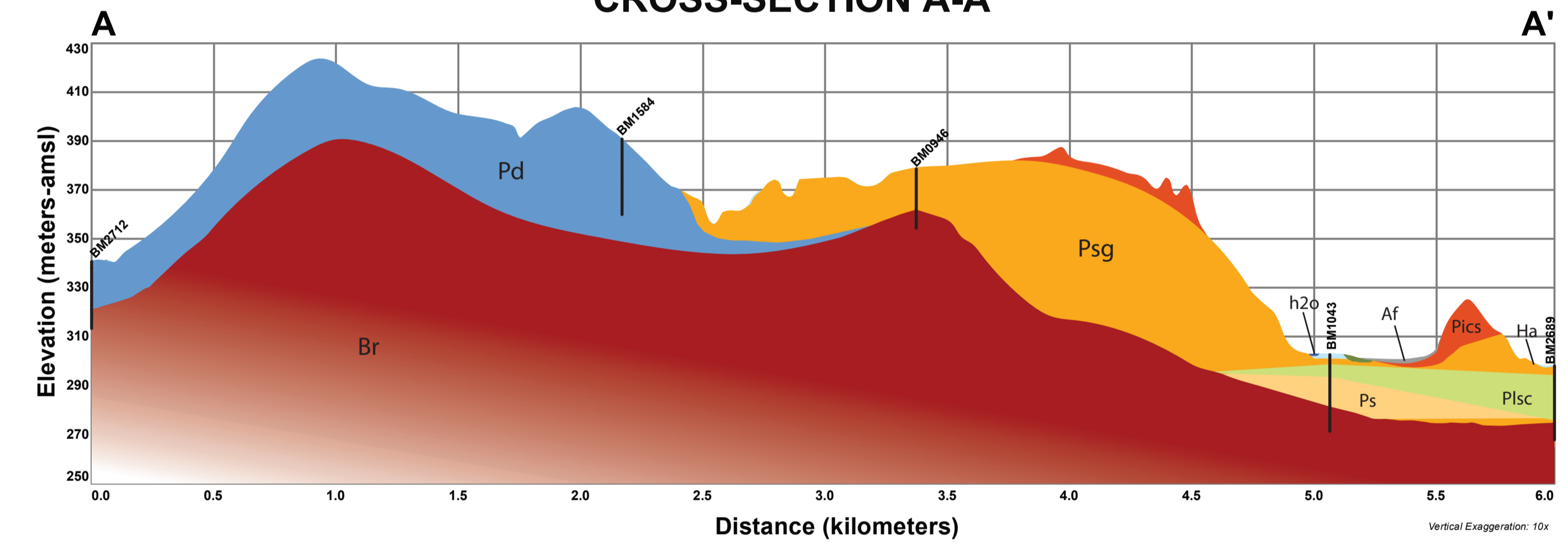
Universal Transverse Mercator, Zone 18 N North American Datum of 1983
Hydrology and planimetry layers from the New York State DOT Raster
Quadrangle boundaries for Broome and Tioga Counties.
(<https://gis.ny.gov/gisdata/inventories/member.cfm?OrganizationID=108>)
Geographic data layers from 2023 TIGERLine shapes for transportation:
(<https://www.census.gov/geographic/tiger/data.html>)
Shaded relief from FEMA 2019 1-meter lidar data set:
(<http://gis.ny.gov/elevation/index.cfm>)
Magnetic declination from the NOAA online Declination Calculator:
(<https://www.nmfs.gov/magnetic-declination-calculator>)
Field map, notes and draft maps available through the NYSGS Open File:
(<https://www.ny.gov/nysgs-research-collectors-geology/collections/open-file>)

SCALE 1:24,000
1 0.5 0 0.5 1
1000 500 0 500 1000 2000
KILOMETERS
1 0.5 0 0.5 1
1000 500 0 500 1000 2000
FEET
CONTOUR INTERVAL: 10 FEET

Geologic mapping by K. Backhaus and A. Kozlowski, 2022-2023
Digital data and cartography, K. Backhaus, 2023

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

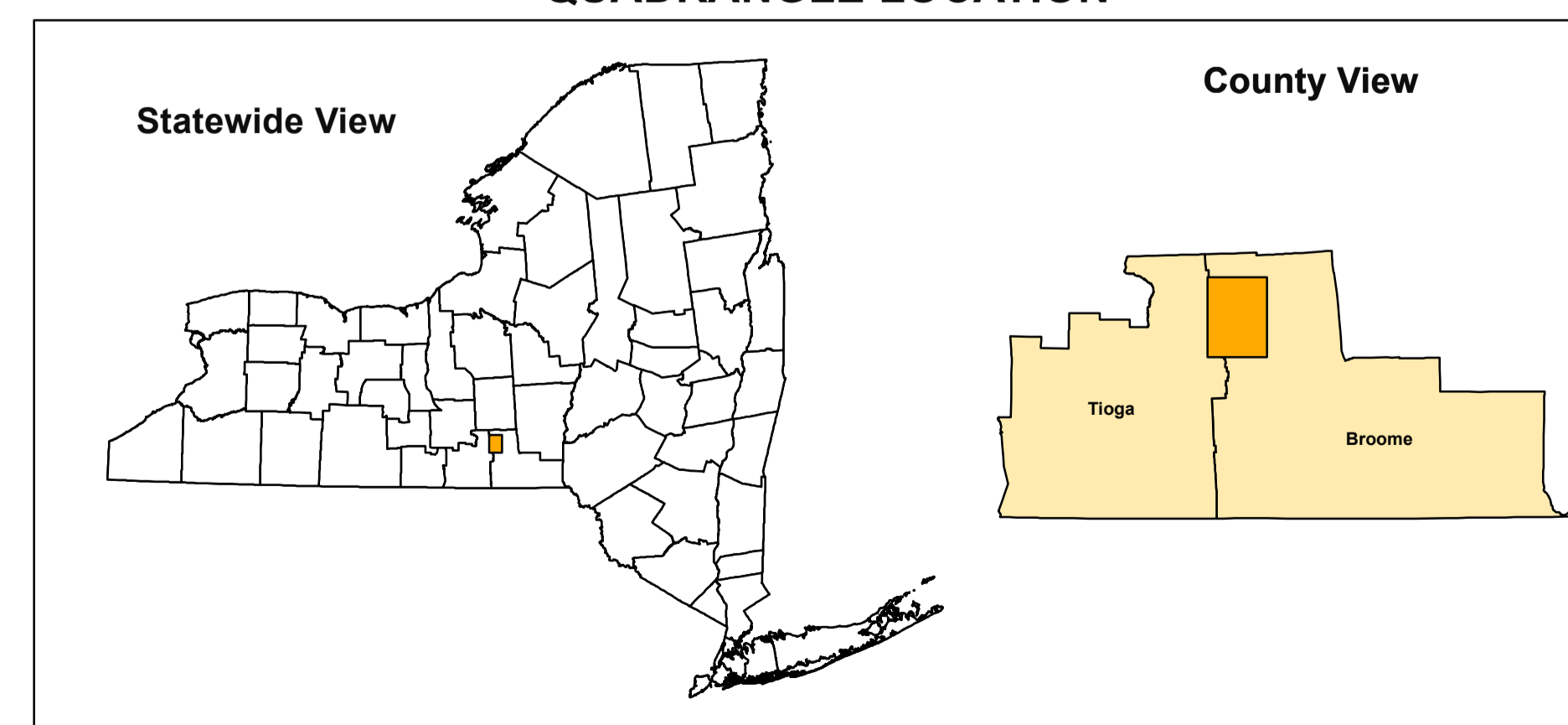
CROSS-SECTION A-A'



SYMBOLS

- | | | |
|---------------|------------------------------|----------------------------------|
| — Street | ~ Stream | + NYSDOT Boring Location |
| — Highway | - - - Cross-Section Line | + NYSDOT Oil & Gas Well Location |
| — Railroad | ~ Contour | • Moraine |
| — County Line | • NYSGS Soil Sample Location | ←←←←← Esker |
| Water Body | + NYSDOT Water Well Location | ↓ Glacial Striation |

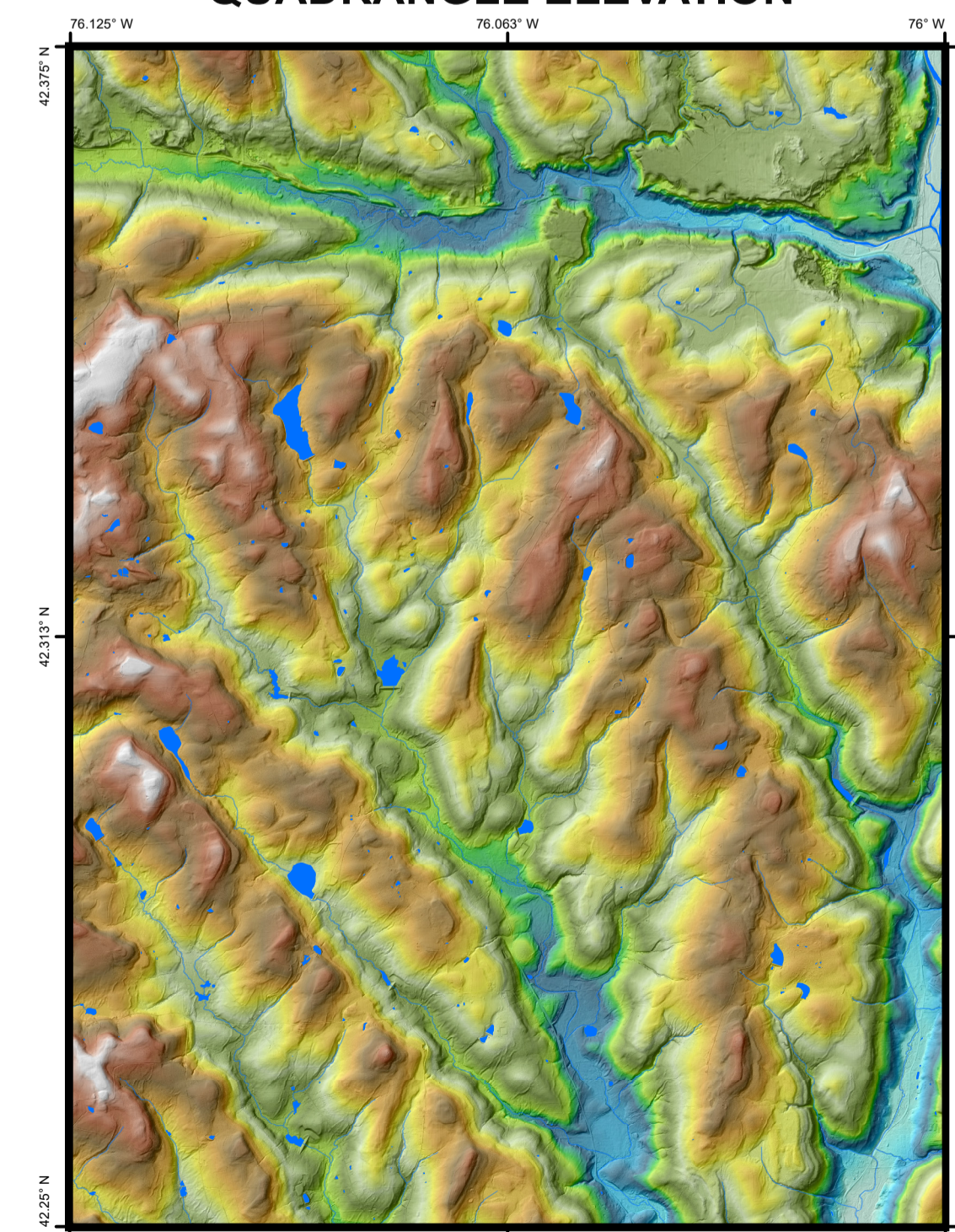
QUADRANGLE LOCATION



ADJOINING QUADRANGLES

Hartford	Marathon	Willet
Rochford	Lisle	Whitney Point
Newark Valley	Milne	Chalk Creek

QUADRANGLE ELEVATION



Feet-amsl
955 1620

1:75,000 scale; 2x vertical exaggeration
Shaded relief generated from 2019 FEMA
1-meter lidar data set

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NOTICE
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