**SURFICIAL GEOLOGY OF THE CLEVELAND 7.5-MINUTE QUADRANGLE, MADISON, ONEIDA, ONONDAGA AND OSWEGO COUNTIES, NEW YORK**

Prepared by Brian C. Bird and Karl J. Backhaus

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**DESCRIPTION OF MAP UNITS**

**Holocene**

- **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, river-bank and fan deposits.

- **Hw**: Peat, mud, silt, clay or sand deposited in association with wetland environments. Various sediments can be present at transitional boundaries from one facies to another.

**Pleistocene**

- **Ps**: Sorted and stratified sand, deposited by fluvial, lacustrine or eolian processes. Inferred as deposits associated with distal-glacial environments.

- **Psc**: Sorted stratified silt, sand and gravel. Inferred to be deposited in mid-shore to deeper settings of glacial lakes. May include marl, silt, clay and varves.

- **Pics**: Sorted, fine-grained sediment consisting of fine sand, silt and clay size particles. Inferred to be deposited in mid-shore to deeper settings of glacial lakes. May include marl, silt, clay and varves.

- **Pcs**: 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.

- **Pdmm**: An admixture of unsorted sediment ranging from clay to boulders. Generally matrix supported, massive and clast-rich.

**Pre-Pleistocene**

- **Br**: Non-glacially derived, hard rock, pre-pleistocene in age. May be covered up to a meter in diamicton, sand and gravel, or sand and clay in areas marked as Br.

**QUADRANGLE LOCATION**

**SYMBOLS**

- **Steets**
- **Highways**
- **County Lines**
- **Watersheds**
- **NYSDEC Water Well Location**
- **NYSDOT Boring Location**

**ADJOINING QUADRANGLES**

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<tr>
<th>Quadrangle</th>
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<td>Oswego</td>
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**NOTICE**

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