**SURFICIAL GEOLOGY OF LIBERTYVILLE QUADRANGLE**

**LAKE COUNTY, ILLINOIS**

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### QUATERNARY DEPOSITS

**HUDDSON EPISODE (~10,000 years before present [B.P.]) to today**

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine gravel, fine sand, clay, and peat (bottoms near present-day water) and coarser deposits (adjacent to deep water).</td>
<td>HUDDSDN</td>
<td>Glacio-fluvial deposits.</td>
</tr>
</tbody>
</table>

**WISCONSIN EPISODE (~25,000 to 10,000 years B.P.)**

- **VILLAGERS FORMATION**: Gravelly sands and silts, primarily in the floodplains. Typical thickness: 1 to 2 feet. Interpretation: Fluvial deposits.
- **LEMMAN FORMATION**: Tills, predominantly in the border region of the ice. Typical thickness: 3 to 5 feet. Interpretation: Glacial deposits.

**VANDERbild FORMATION**: Organic-rich sediments in front of the terminal moraine. Typical thickness: 3 to 5 feet. Interpretation: Glaciolacustrine deposits.

**Pleistocene deposits (~2.58 million to 10,000 years B.P.)**

- **LEMMAN FORMATION**: Deposits adjacent to the ice. Typical thickness: 2 to 3 feet. Interpretation: Glacial deposits.
- **SG FORMATION**: Organic-rich sediments in front of the terminal moraine. Typical thickness: 2 to 3 feet. Interpretation: Glaciolacustrine deposits.

**PRE-WISCONSIN EPISODE (~2.58 to 0.1386 million years B.P.)**

- **MICHIGAN-CHASE FORMATION**: Deposits adjacent to the ice. Typical thickness: 2 to 3 feet. Interpretation: Glacial deposits.
- **Saginaw FORMATION**: Organic-rich sediments in front of the terminal moraine. Typical thickness: 2 to 3 feet. Interpretation: Glaciolacustrine deposits.

**PRE-QUATERNARY DEPOSITS**

- **BIBLIOGRAPHIC INDEX (~2.58 to 1.8 million years B.P.)**: Deposits adjacent to the ice. Typical thickness: 2 to 3 feet. Interpretation: Glacial deposits.
- **Lake sediment**: Deposition of sediments in lakes and water bodies. Typical thickness: 2 to 3 feet. Interpretation: Lacustrine deposits.

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**Legend**

- **Interpretation**
- **Data Type**
- **Engineering Noting**
- **Gage locations**
- **Shoreline leading edge**

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**References**

Introduction
Most of the creation in archeological Illinois are among the more rapidly growing urban areas in the state. The city of Chicago is the most rapidly growing city in the country. Although the state of Illinois is a significant region, the large urban areas of the state, such as Chicago, are significant regions as well. The Illinois State Geological Survey (ISGS) has implemented mapping projects to document the geology in these areas and to make it available to the public. The Illinois State Geological Survey has been working on mapping projects since 2000 in order to provide accurate and comprehensive information about the geology of Illinois. This project focuses on mapping the Quaternary geology of the Libertyville Quadrangle.

Regional Setting
The Quaternary geology of the Libertyville Quadrangle is dominated by the Nelson Island Glacial and the Tinley Moraine (Figure 2). The Nelson Island Glacial represents a readvance of the Henry and Equality Formations, respectively. The Tinley Moraine represents a readvance of the Henry and Equality Formations, respectively. The Haeger till also is found infrequently in this area (see cross section, Figure 1). The Haeger till was deposited during the Wisconsinan Stage and the Nelson Island Glacial was deposited during the Illinoian Stage.

Mapping Techniques
The map of the Quaternary geology is based largely on digital data. The Illinois State Geological Survey (ISGS) has implemented mapping projects to document the geology in these areas and to make it available to the public. The Illinois State Geological Survey has been working on mapping projects since 2000 in order to provide accurate and comprehensive information about the geology of Illinois. This project focuses on mapping the Quaternary geology of the Libertyville Quadrangle.

Acknowledgments
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References