**Abstract:** This study involved constructing a surficial geologic map of the 7.5 minute Bloomington West Quadrangle located in McLean County. The Quadrangle is confined within the area 89°00' to 89°07'10" latitude and 40°30' to 40°22'30" at a scale of 1:24,000. The sediments present were deposited during, and after the Wisconsin Glacial Episode. Methods used in the creation of the Quadrangle include the conversion of soils data, LiDAR data, well water log data and field work. The five formations located in the Bloomington West Quadrangle are the Cahokia, Tiskilwa, Lemont, Peoria and Henry. These formations are Quaternary in age. The Cahokia Alluvium is a silty clay interbedded with a fine sand and is located along stream beds and valley floors. The Cahokia Alluvium is interpreted to be post-glacial loess and till that has been redeposited in fans where streams and ravines emerge from uplands and onto low slope valley floors. The Tiskilwa is a red-grey to grey calcareous clay loam. The Normal Moraine divides the Bloomington West Quadrangle with the Lemont being to the North and Tiskilwa to the South. The Lemont is a diamicton consisting of grey, blue, brown, black, and green clay interpreted to be a combination of silty loess and loamy till. The Peoria Silt is light yellow to grey sandy silt interpreted to be mostly a pro-glacial loess. The Peoria Silt is only mapable with a thickness of loess greater than sixty inches and comes from glacial meltwater channels. Lastly, the Henry Formation is gravel and sand interpreted to be valley train outwash.

**Introduction:** Over 25,000 years ago, the surficial features of this region were carved out after the Wisconsin Glacial Episode. During this time large amounts of material were picked up, transported and deposited in new regions. When the glaciers receded, moraines were formed from large sand and gravel deposits. The primary deposits found in this region are till, loess, alluvium and outwash. (https://www.isgs.illinois.edu/outreach/geology-resources/glaciers-smooth-surface)

**Well Water Data**

**Elevation Data**

**Results/Discussion:** The 7.5 Minute Bloomington West Quadrangle is located in McLean County, Illinois. The formations present in this formation are Cahokia, Henry, Lemont, Tiskilwa and Peoria. These units are all Quaternary in age and were deposited in the Wisconsin Glacial Episode. The Cahokia Alluvium is a silty clay interbedded with a fine sand, it is found along stream beds and valley floors. It is interpreted to be post-glacial loess. The Henry formation contains gravel and sand which is interpreted to be valley train outwash. The Lemont formation is a diamicton consisting of grey, blue, brown, black and green clay. This formation is said to be a mixture of silty loess and loamy till. The Normal Moraine is the division going through the Bloomington West Quadrangle, this separates the Lemont and Tiskilwa formations. The Tiskilwa formation contains red to grey calcareous clay loam. The Peoria Silt is a light yellow tan to grey sandy silt interpreted to be mostly a glacial loess. This map was dominated by the two till units (Tiskilwa and Lemont). The alluvium, outwash and till were all represented on the surficial geologic map. The loess was not mapped due to its sporadic nature.

**Methods:** The data collected from soil survey books was sectioned off into categories based on formation and parent material. The results were then represented digitally by a topographic map. Well water data was then compared with the interpretations displayed on the geologic map. The Lidar DEM (digital elevation model) was used to locate moraines, loess deposits and other landforms.

**References:**

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