

# Glacial Meltwater Channels as Sole Source Aquifers in Rural Areas of East Central Illinois



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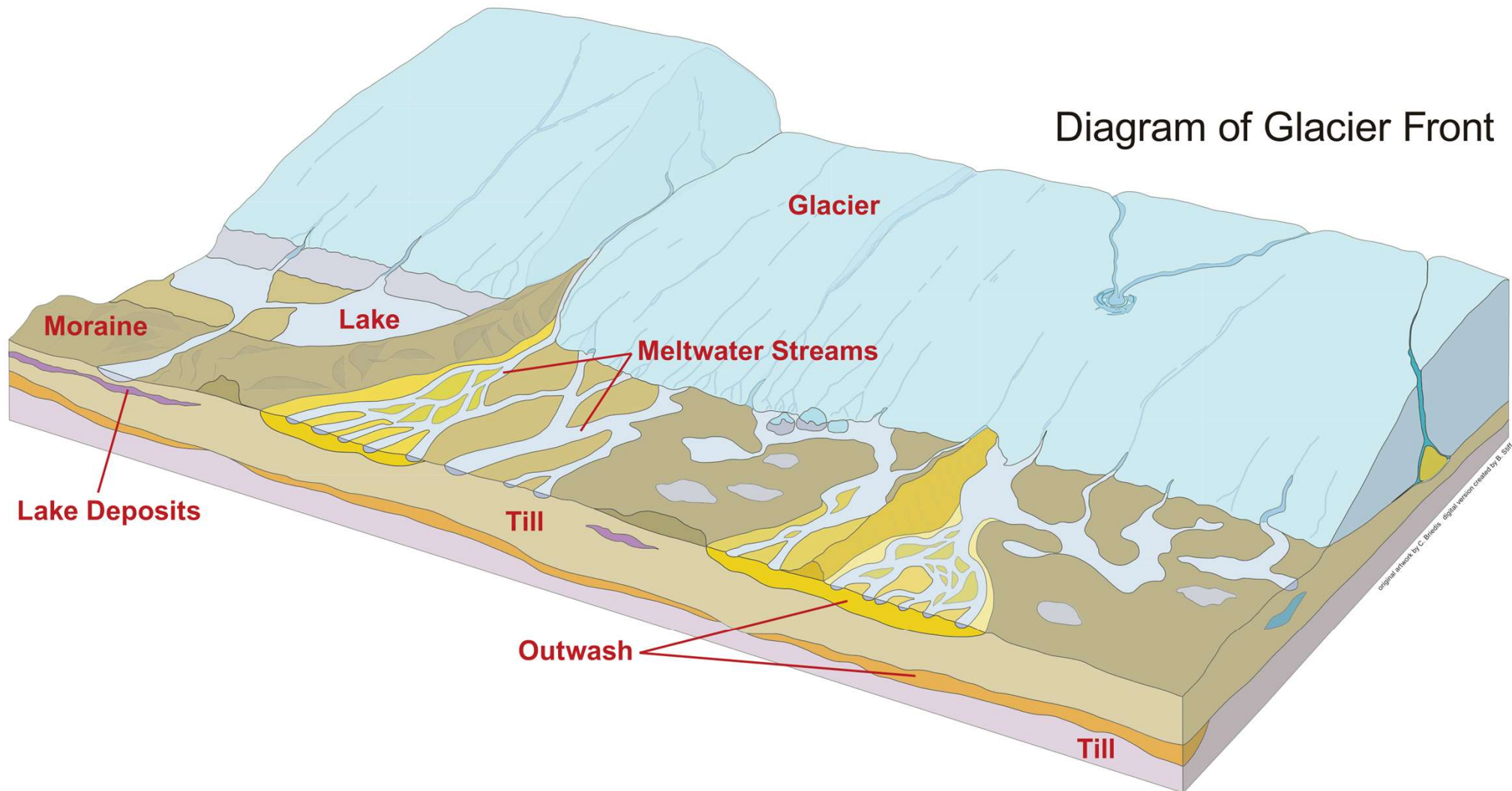
Former Member, Champaign  
County Board  
Member, Mahomet Aquifer  
Council

**Champaign County CO2  
Sequestration Activities  
Task Force (3CSATF)**

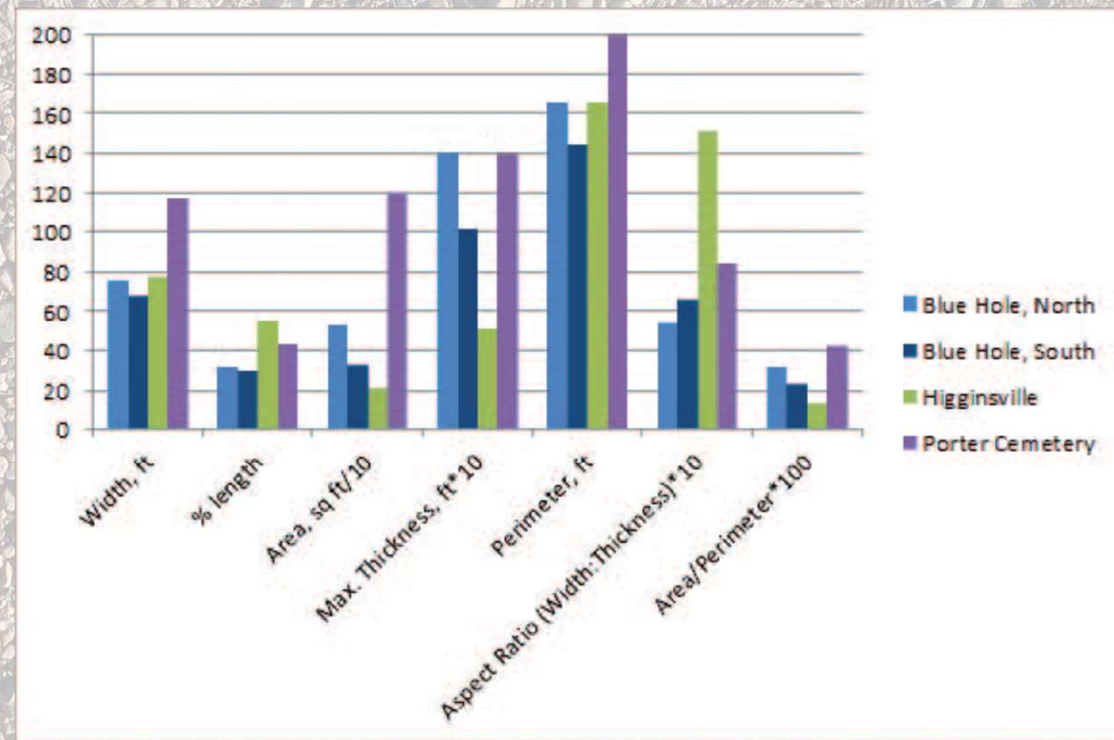
May 29, 2025



Diagram of Glacier Front

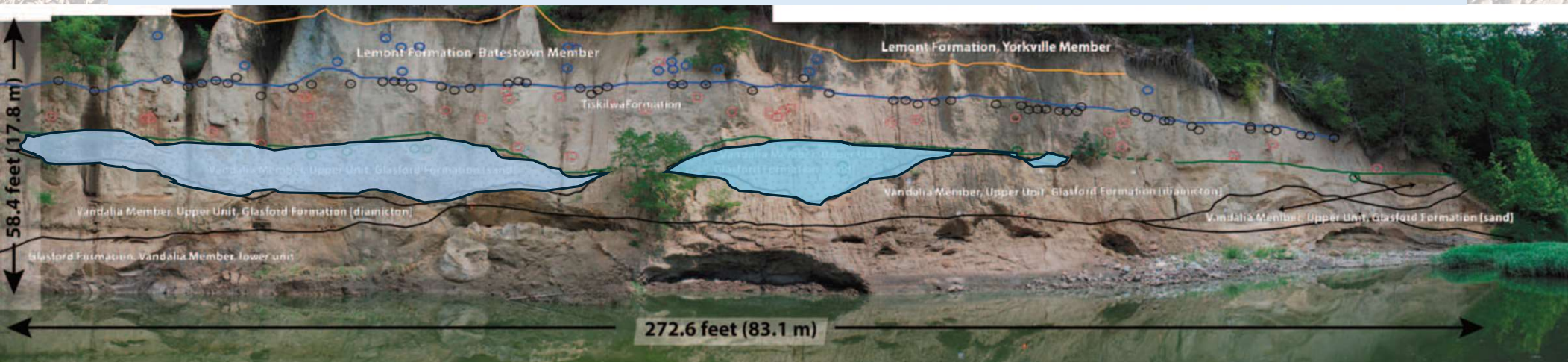


# Glacial Meltwater Channels are a Sole Source Aquifers in Rural Areas of East Central Illinois





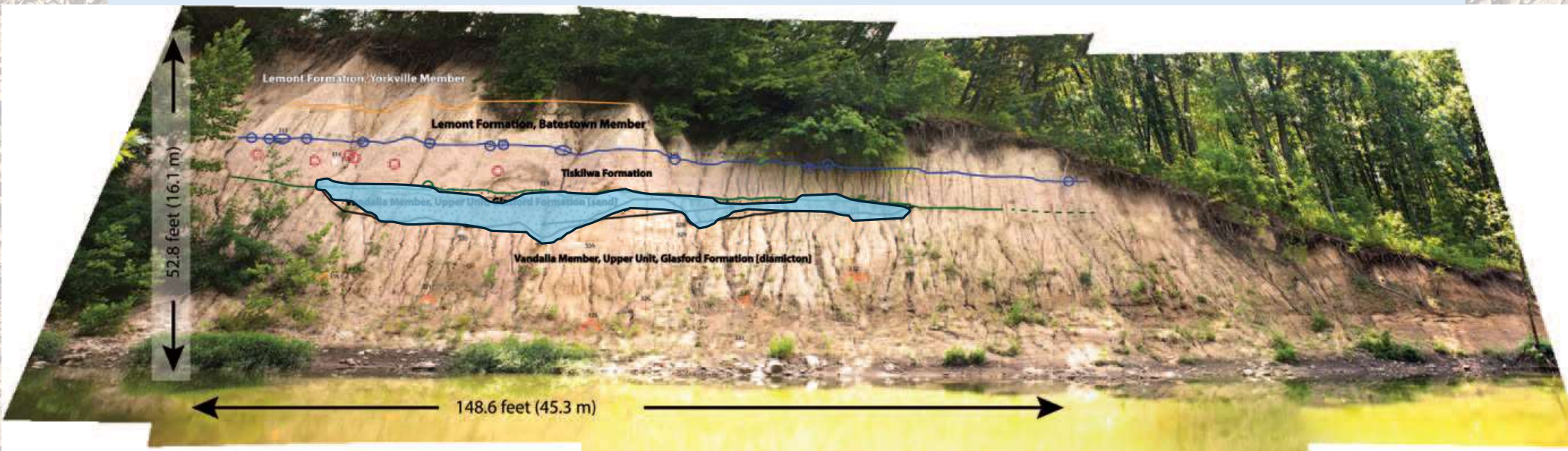
# Clast pavements and buried channel deposits in an outcrop at the Blue Hole site along the Middle Fork of the Vermilion River



| Location         | Width, ft | Channel Width as % Length of Outcrop | Area, sq ft | Max. Thickness, ft | Perimeter, ft |
|------------------|-----------|--------------------------------------|-------------|--------------------|---------------|
| Blue Hole, North | 75.24     | 32                                   | 526.46      | <b>14.02</b>       | 165.97        |
| Blue Hole, South | 67.28     | 30                                   | 327.41      | <b>10.18</b>       | 144.08        |
| Higginsville     | 77.20     | 55                                   | 212.35      | 5.10               | 165.86        |
| Porter Cemetery  | 116.80    | 43                                   | 1199.71     | 13.94              | 282.20        |



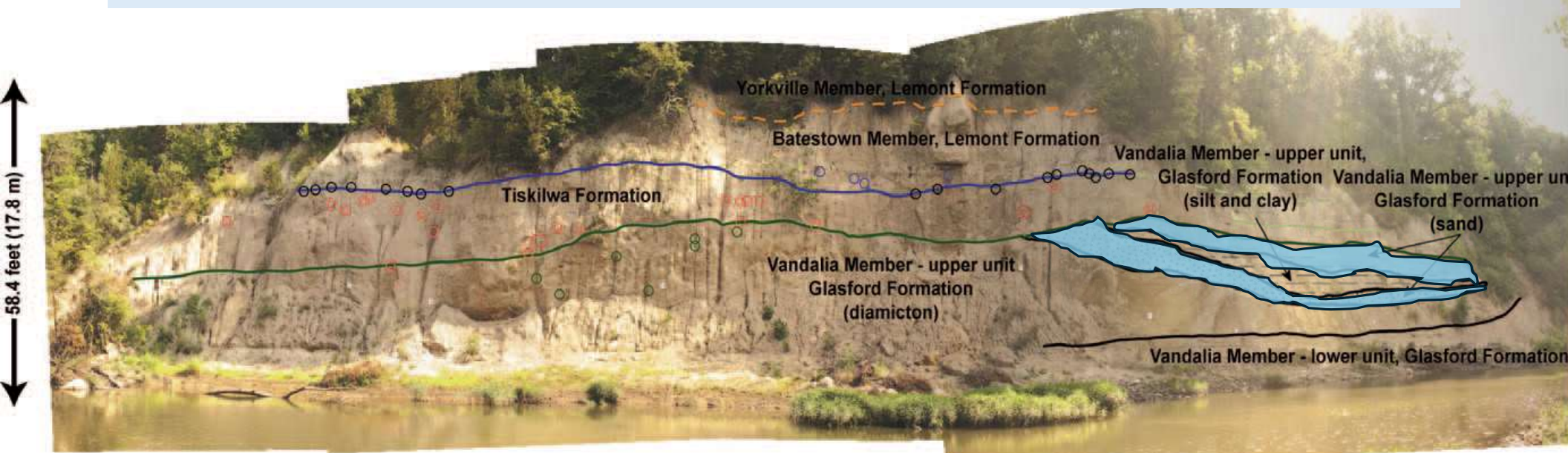
# Clast pavements and buried channel deposits in an outcrop at the Higginsville site along the Middle Fork of the Vermilion River



| Location         | Width, ft | Channel Width as % Length of Outcrop | Area, sq ft | Max. Thickness, ft | Perimeter, ft |
|------------------|-----------|--------------------------------------|-------------|--------------------|---------------|
| Blue Hole, North | 75.24     | 32                                   | 526.46      | 14.02              | 165.97        |
| Blue Hole, South | 67.28     | 30                                   | 327.41      | 10.18              | 144.08        |
| Higginsville     | 77.20     | 55                                   | 212.35      | 5.10               | 165.86        |
| Porter Cemetery  | 116.80    | 43                                   | 1199.71     | 13.94              | 282.20        |



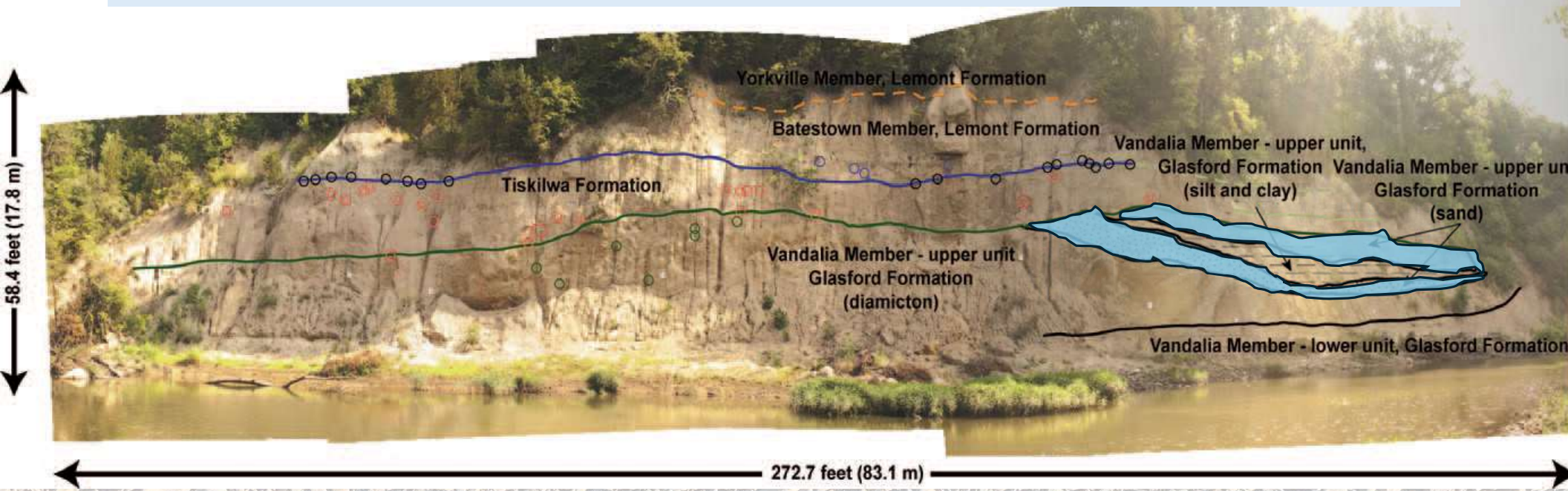
# Clast pavements and buried channel deposits in an outcrop at the Porter Cemetery site along the Middle Fork of the Vermilion River



| Location         | Width, ft | Channel Width as % Length of Outcrop | Area, sq ft | Max. Thickness, ft | Perimeter, ft |
|------------------|-----------|--------------------------------------|-------------|--------------------|---------------|
| Blue Hole, North | 75.24     | 32                                   | 526.46      | 14.02              | 165.97        |
| Blue Hole, South | 67.28     | 30                                   | 327.41      | 10.18              | 144.08        |
| Higginsville     | 77.20     | 55                                   | 212.35      | 5.10               | 165.86        |
| Porter Cemetery  | 116.80    | 43                                   | 1199.71     | 13.94              | 282.20        |



# Glacial Meltwater Channels are Sole Source Aquifers in Rural Areas of East Central Illinois



- Limited occurrence, 'hit or miss',
- Are not laterally extensive,
- Range in thickness 5 to 14 ft thick [ 1.5-4.2 m ],
- Provide limited amounts of water ~ 10 g/min [38 l/m] varying duration



