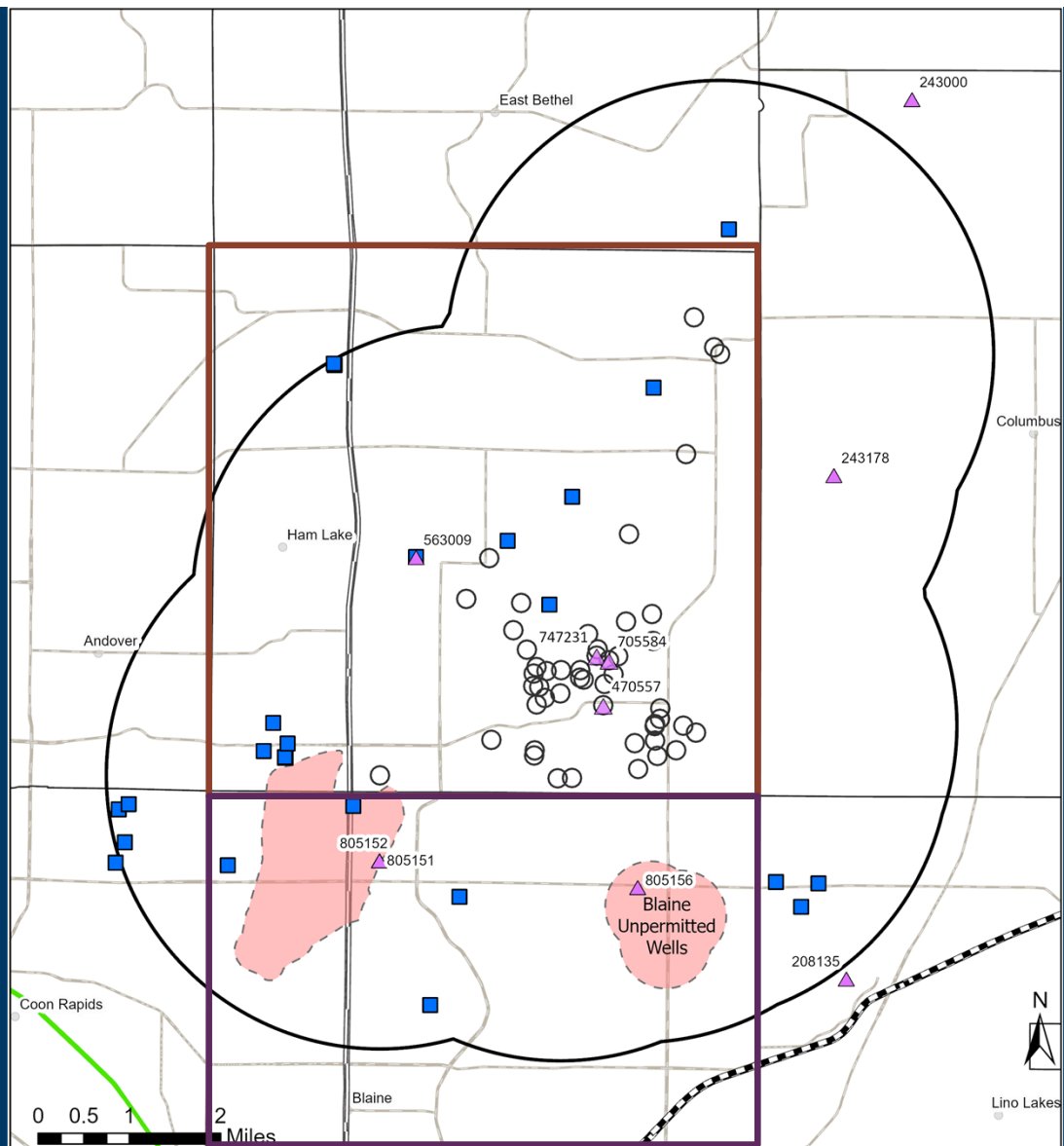




## Blaine and Ham Lake well interferences

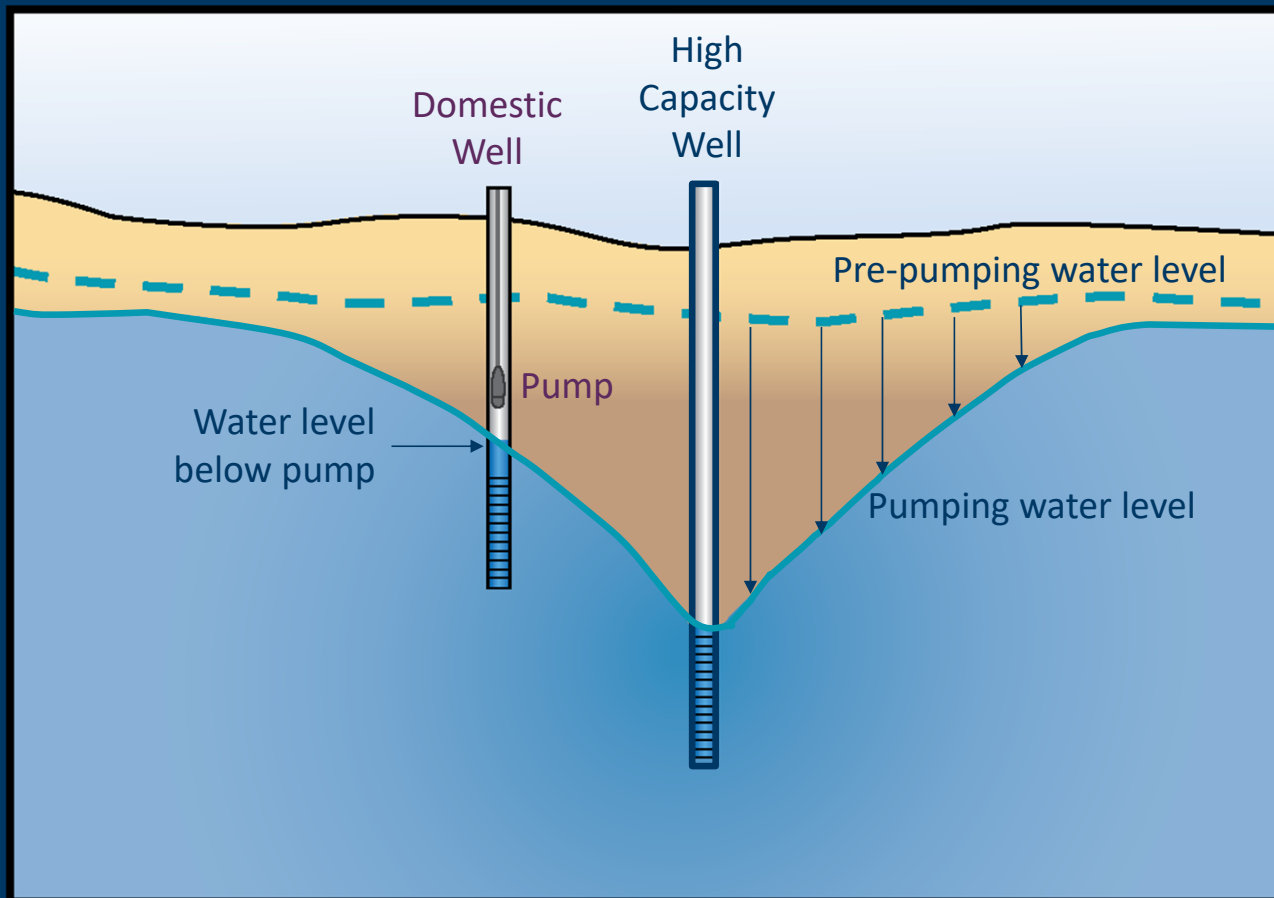
Ellen Considine | Groundwater Supervisor – MN DNR





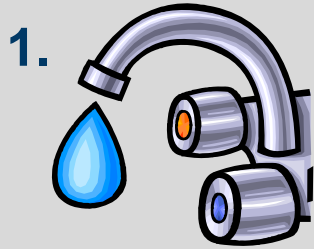
## Well Interference

# Well interference



# Minnesota Water Allocation Priorities

Minnesota Statute 103G.261



Domestic water supply



Consumptive less  
than 10,000  
gallons/day



Agricultural  
irrigation &  
processing



Power production



Consumptive uses in  
excess of 10,000  
gallons/day



Non-essential  
uses

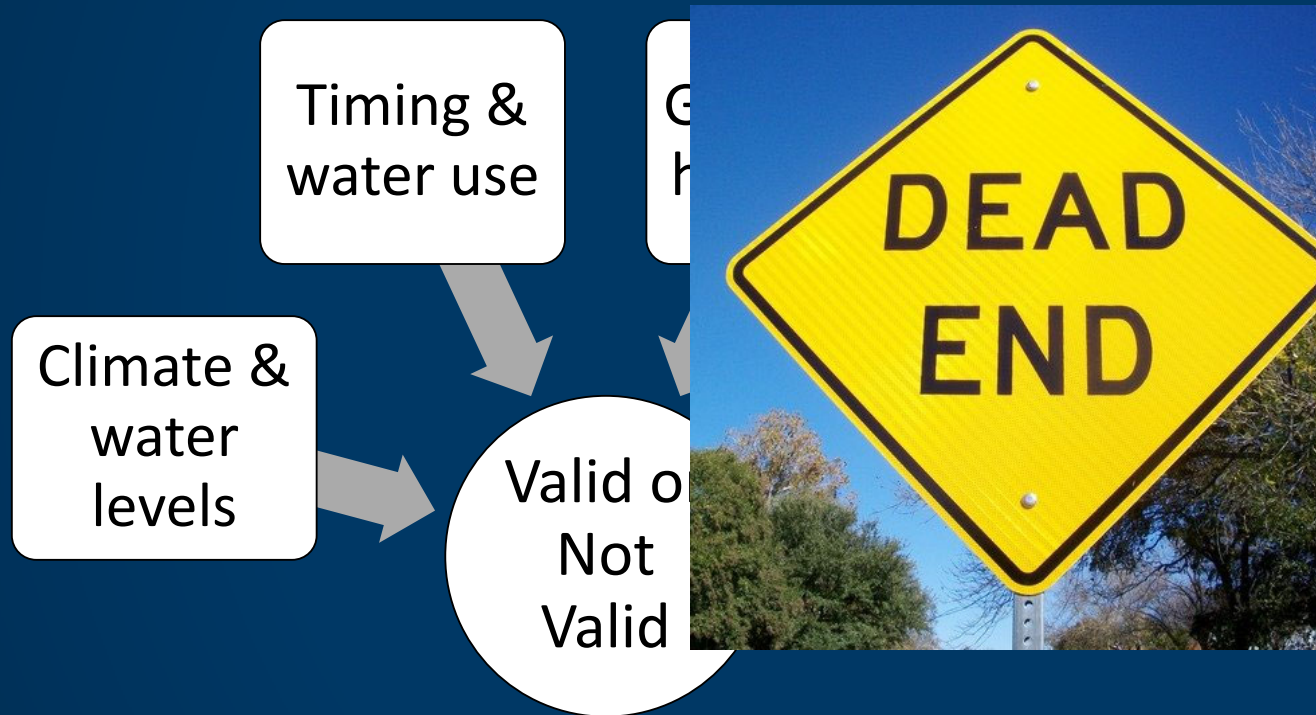
# Investigating Well Interference Complaints

Admin. Rules 6115.0730

1. Driller inspects well
2. Well owner files complaint
3. DNR investigates
  - Climatic conditions & groundwater levels
  - Timing of pumping vs out-of-water
  - Geologic & hydrologic connections
  - Condition of domestic well

# Investigating Well Interference Complaints

Admin. Rules 6115.0730



# Resolving **Valid** Complaints

Admin. Rules 6115.0730

1. Modify or restrict permit
2. Negotiate reasonable settlement
3. Request public hearing





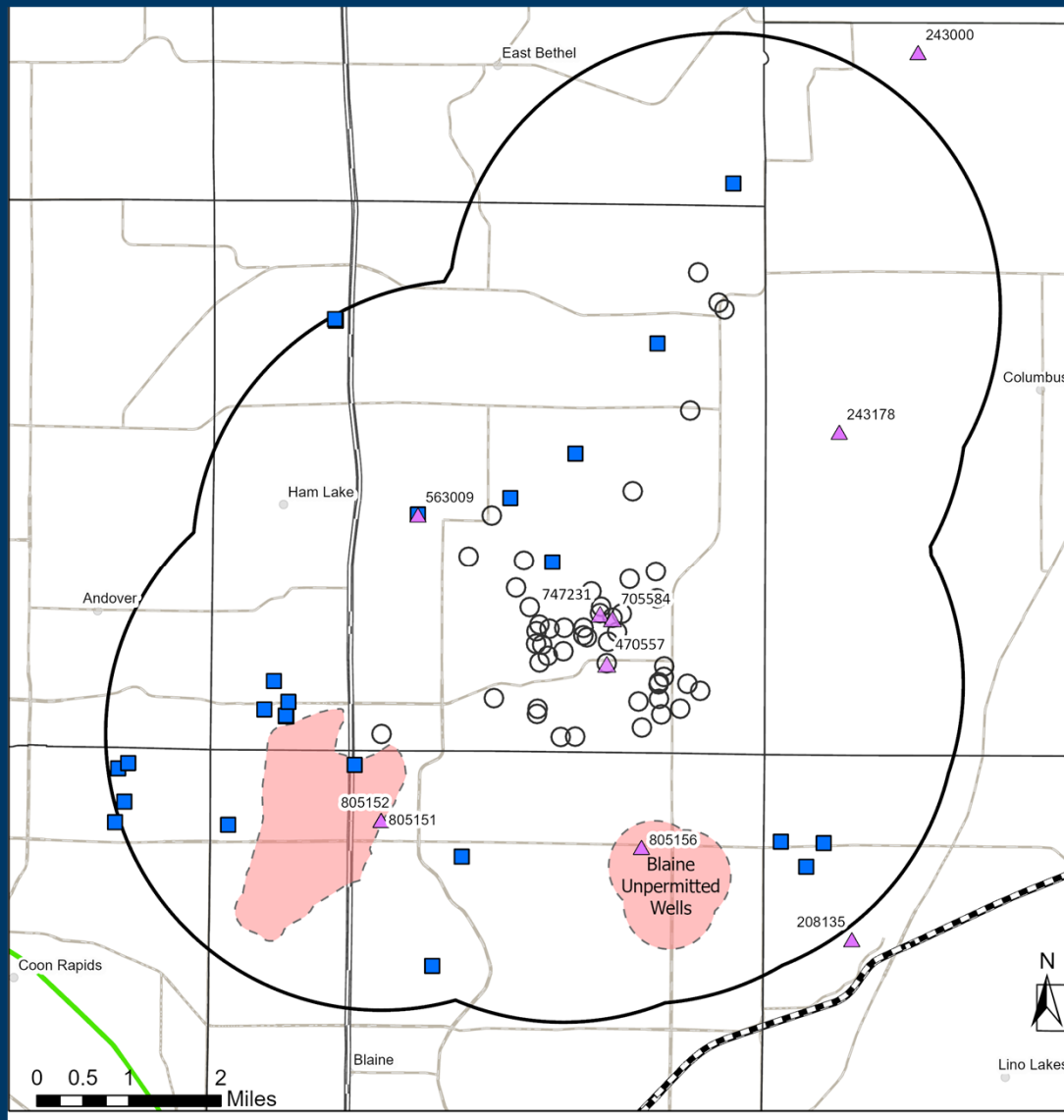
## Blaine & Ham Lake interferences

## Blaine & Ham Lake complaints

Over 150 calls

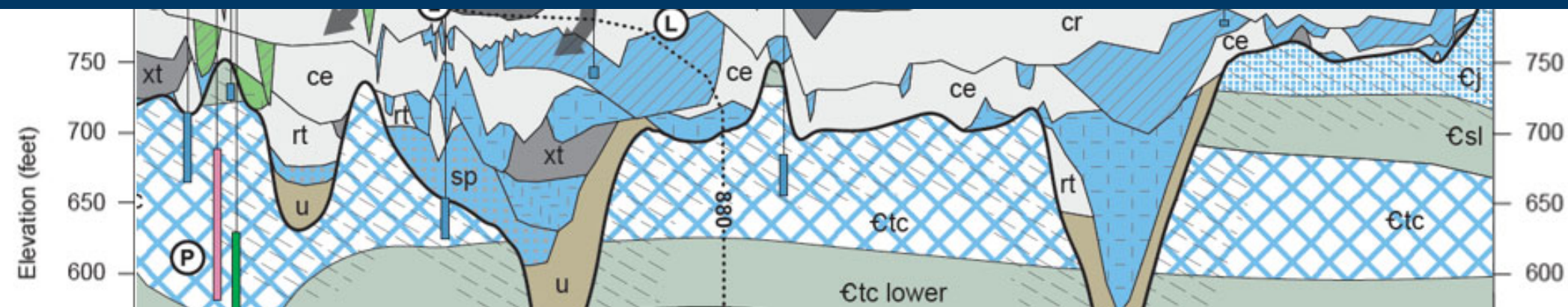
74 complaint forms

50 investigated so far



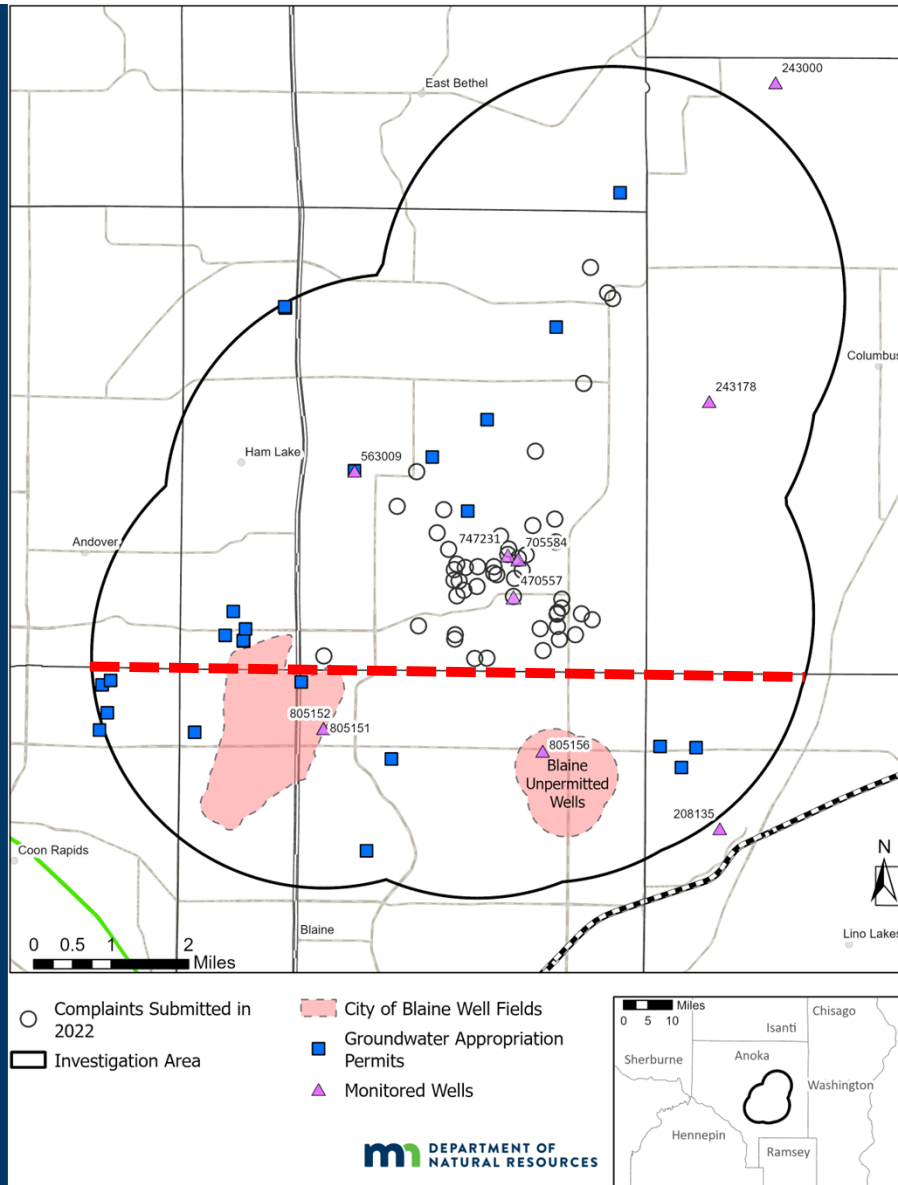
## DNR's investigation

- Climatic conditions & groundwater levels
- Timing of pumping vs out-of-water
- Geologic and hydrologic connections
- Condition of domestic wells



What we learned

# Geology





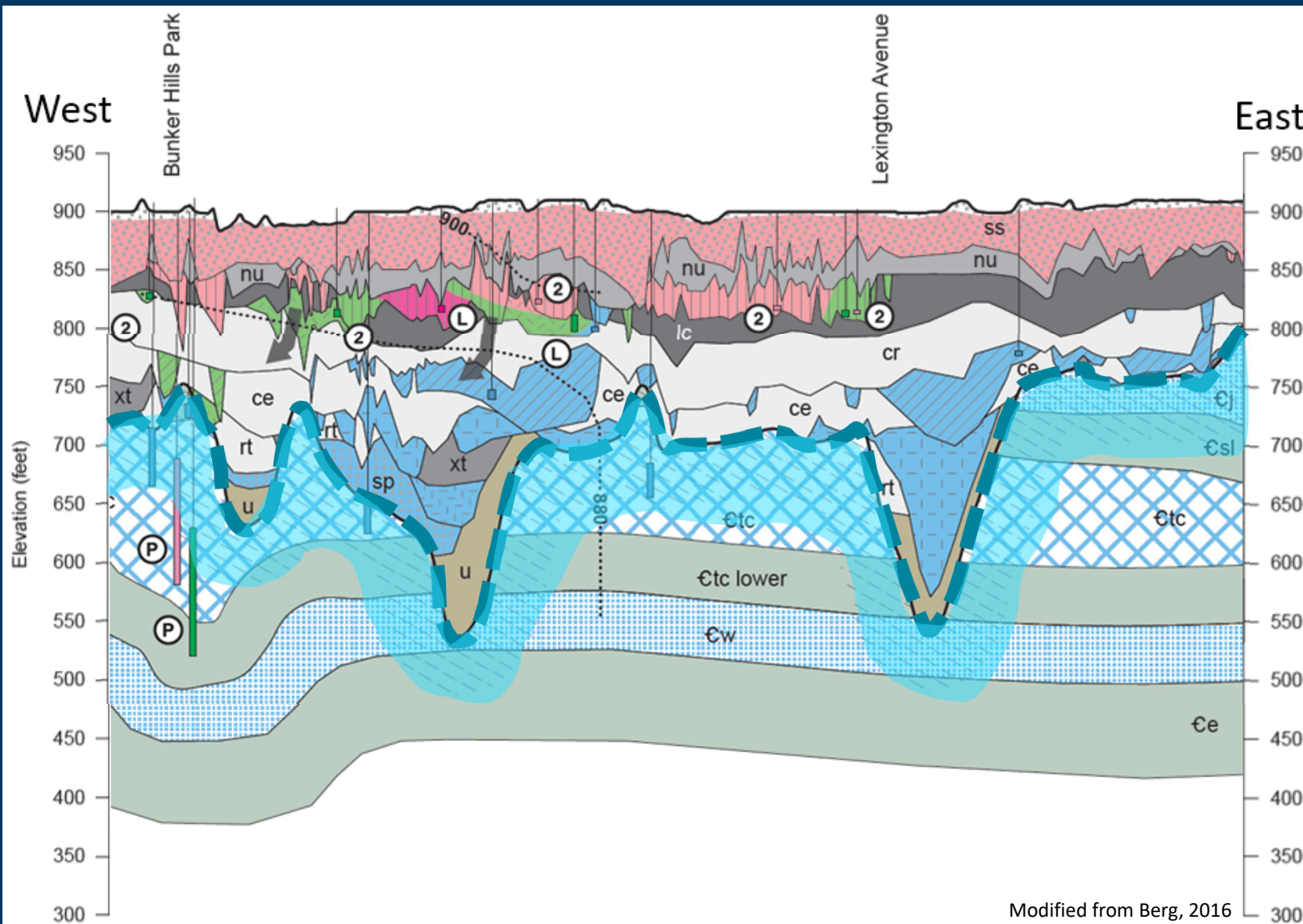
# Geology

Water Table

Glacial Confined

Erosional  
surface

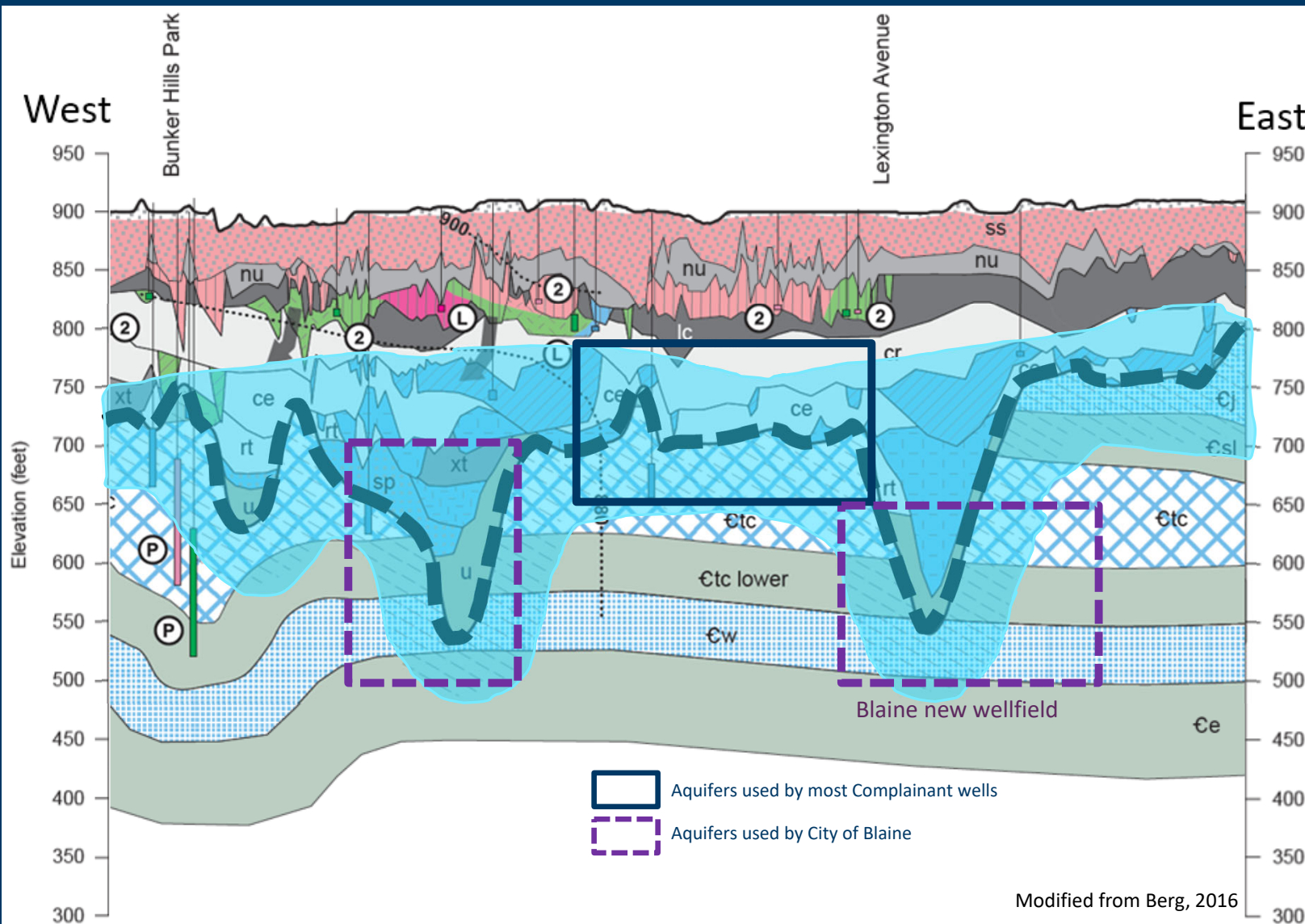
Bedrock



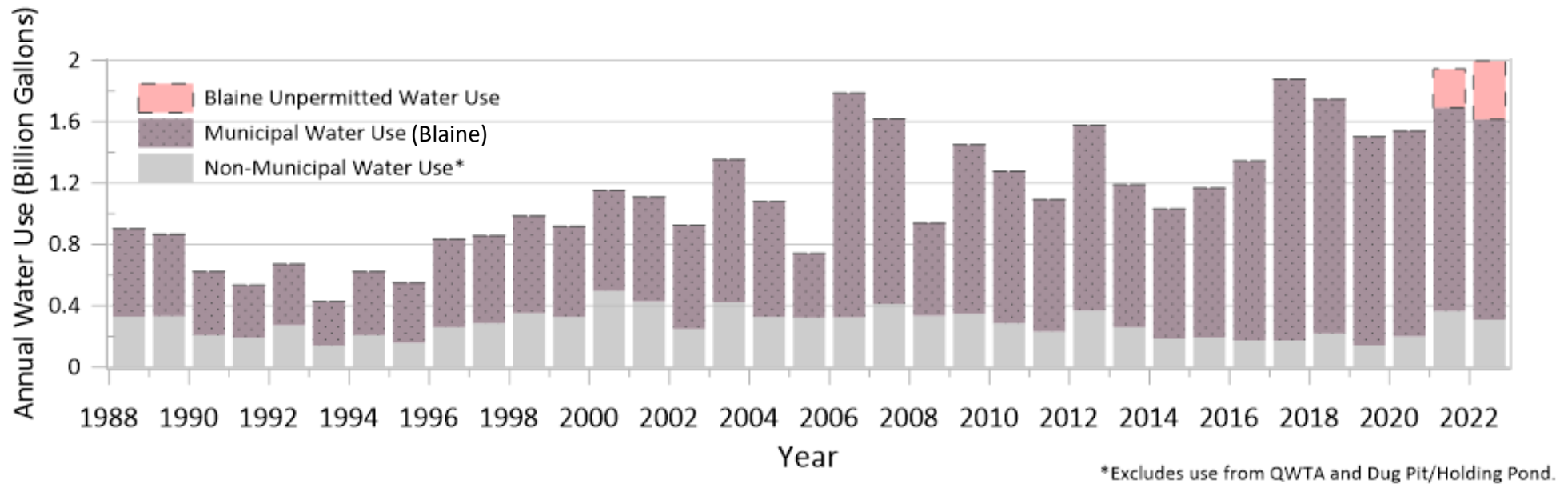
# Geology

Aquifers are connected

Deep Confined – Shallow Bedrock flow system



# Water use

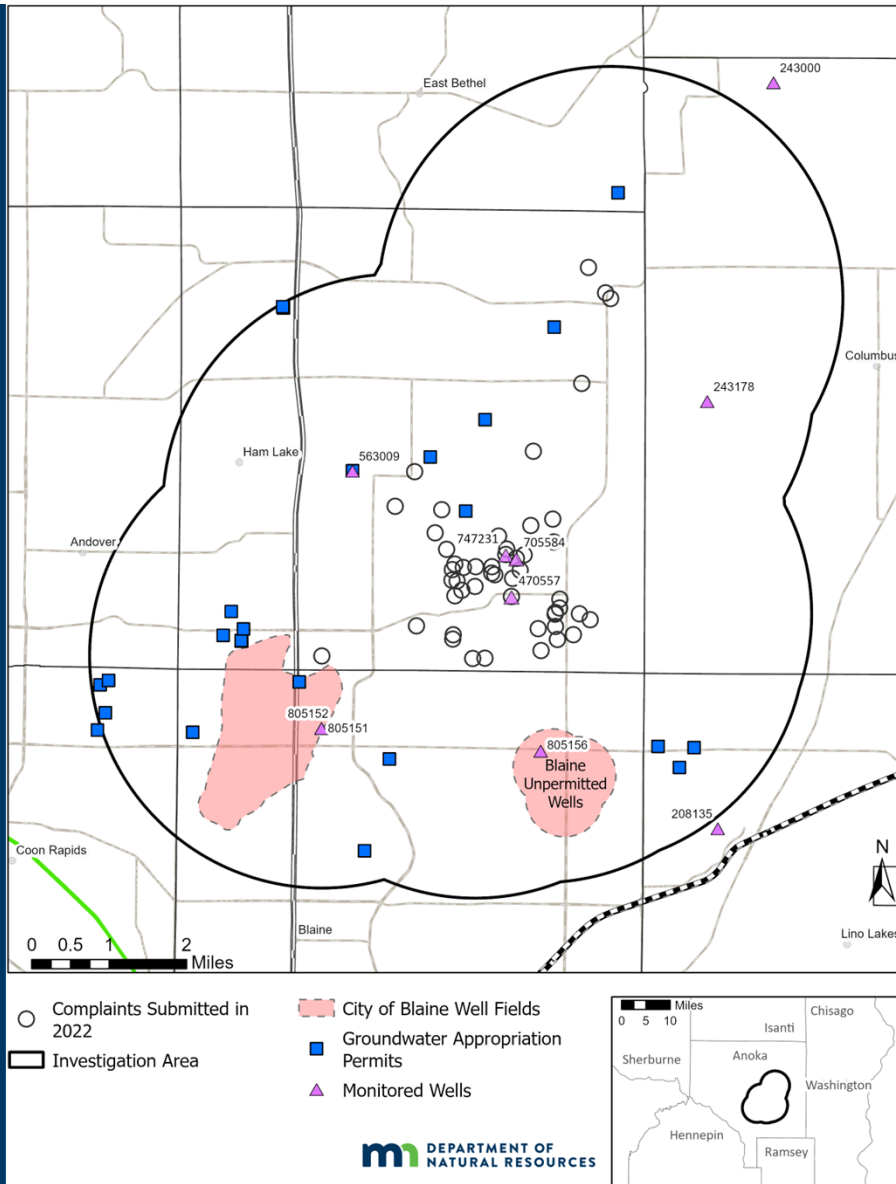


Lowest water levels  
on record in 2022



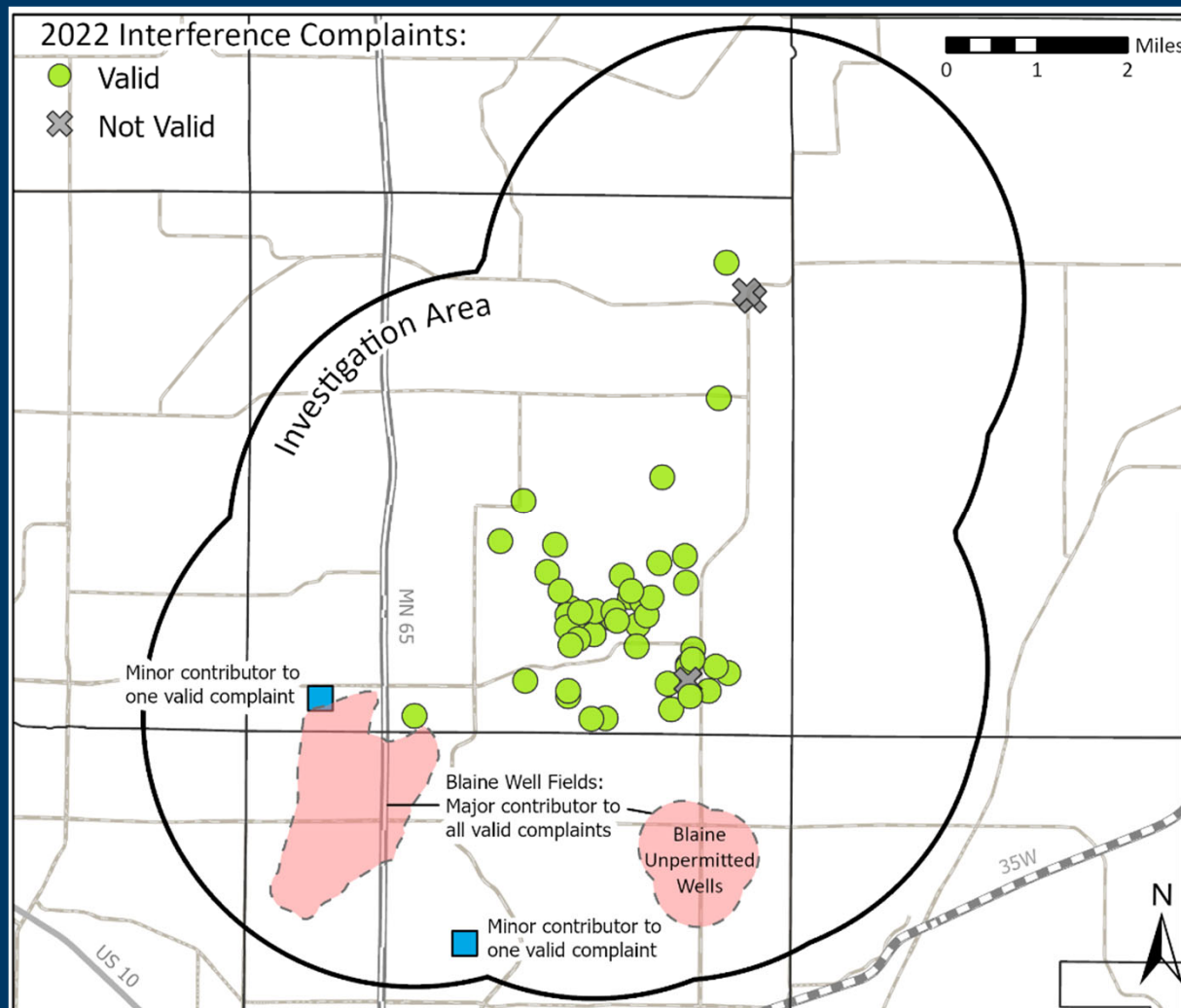
# Complaint information

- Timing: Summer 2022
- Location: southern Ham Lake
- Issue: out of water/low water supply
- Aquifer: deep confined – shallow bedrock
- Drawdown: ~30 feet
- Resolution: lowering pumps



# Highlights

- Bedrock aquifers connected to glacial aquifers
- High groundwater use = low groundwater levels
- Pumping can affect wells several miles away



## Results

- 50 complaints
  - 47 valid
  - 3 not valid
- Main cause: Blaine's pumping
- Minor contributor: two golf courses

## Next steps

- DNR will work through the well interference settlement process with the City of Blaine, two golf courses, and residents associated with the 47 valid complaints.
- DNR will continue to investigate outstanding (24) and future complaints.
- More work needed before Blaine can use the new wells

# Questions?

Ellen Considine

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651-259-5669