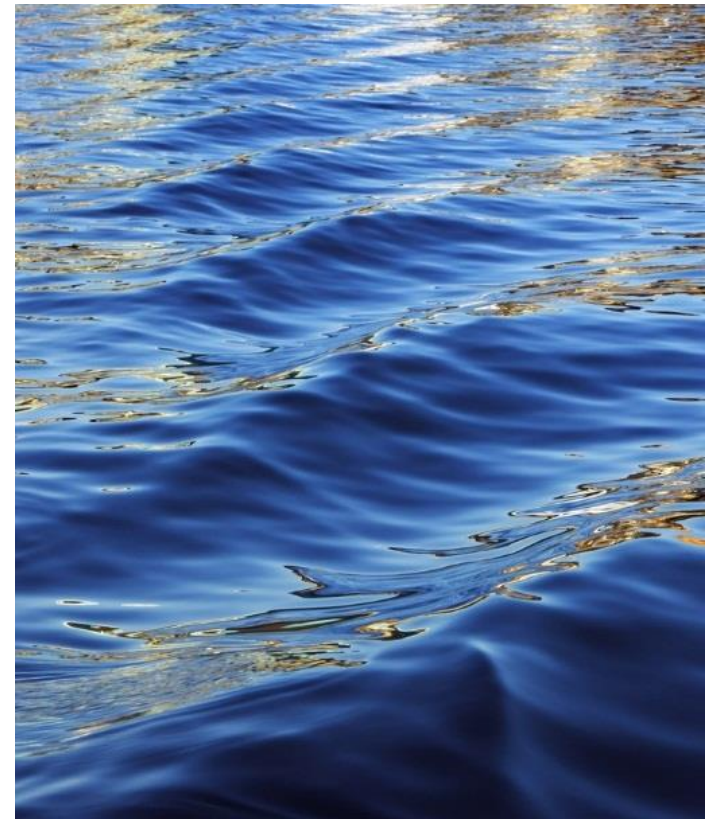


# Oyster River Water Supply

Comox Valley Regional District (CVRD)



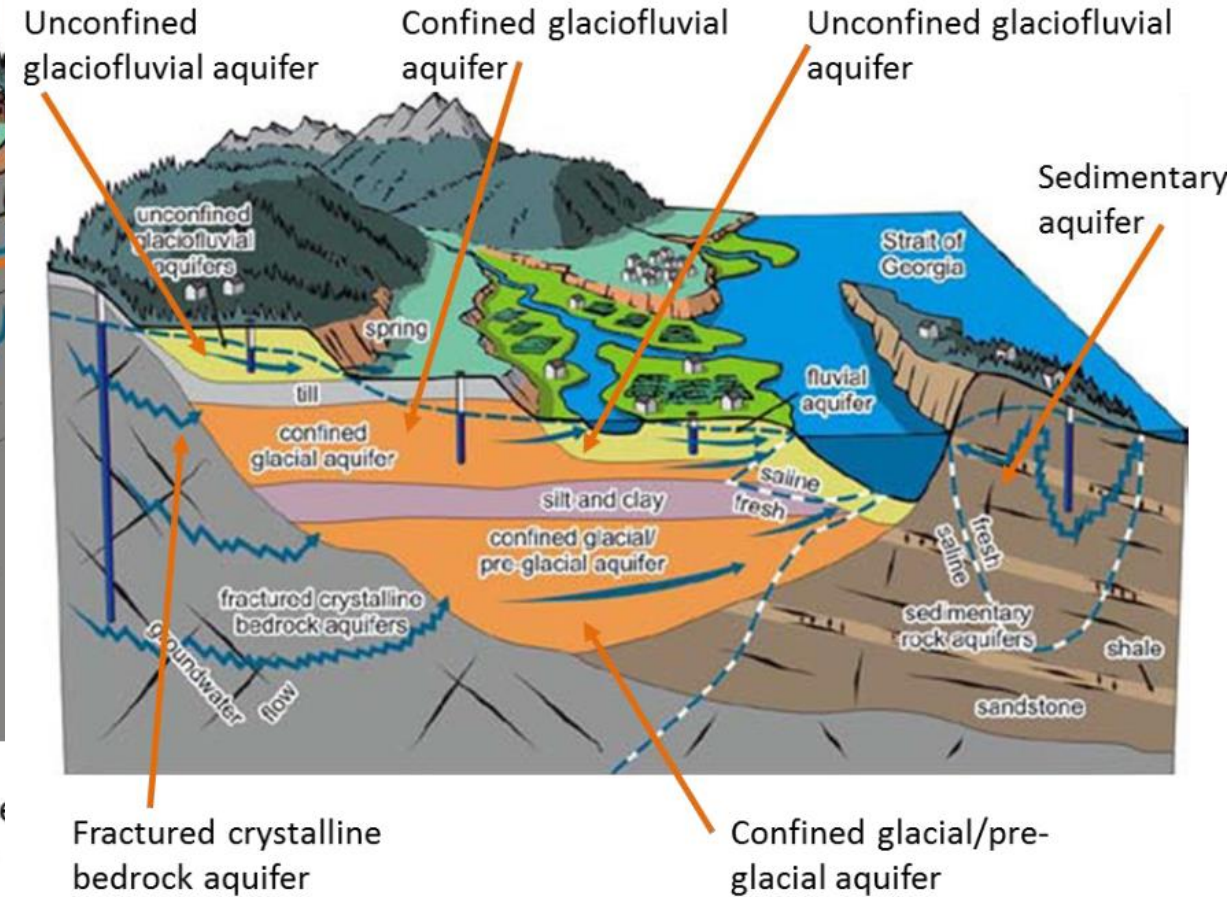
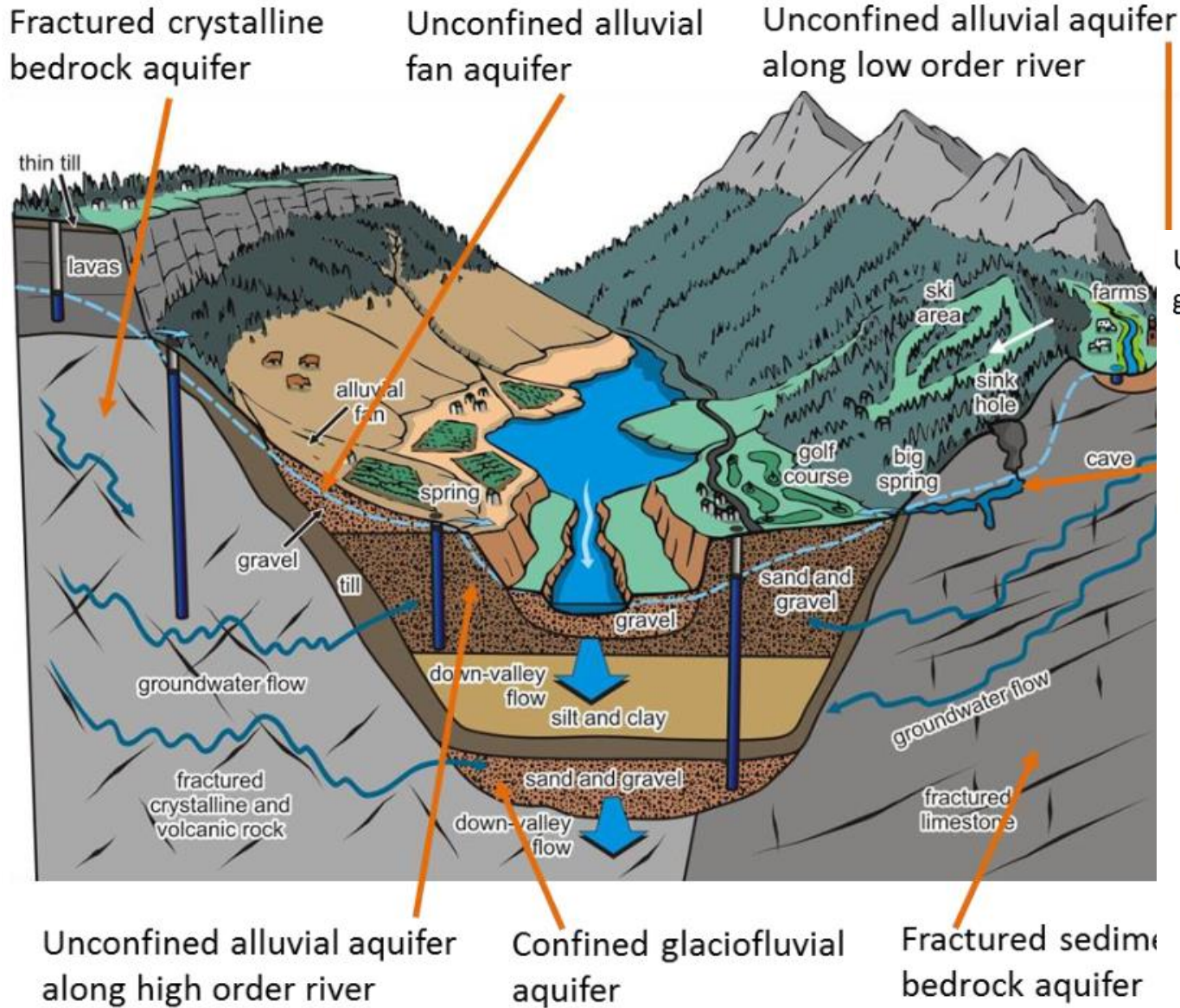
## GW SOLUTIONS

ASSESSMENT & PROTECTION OF GROUNDWATER

# Outline

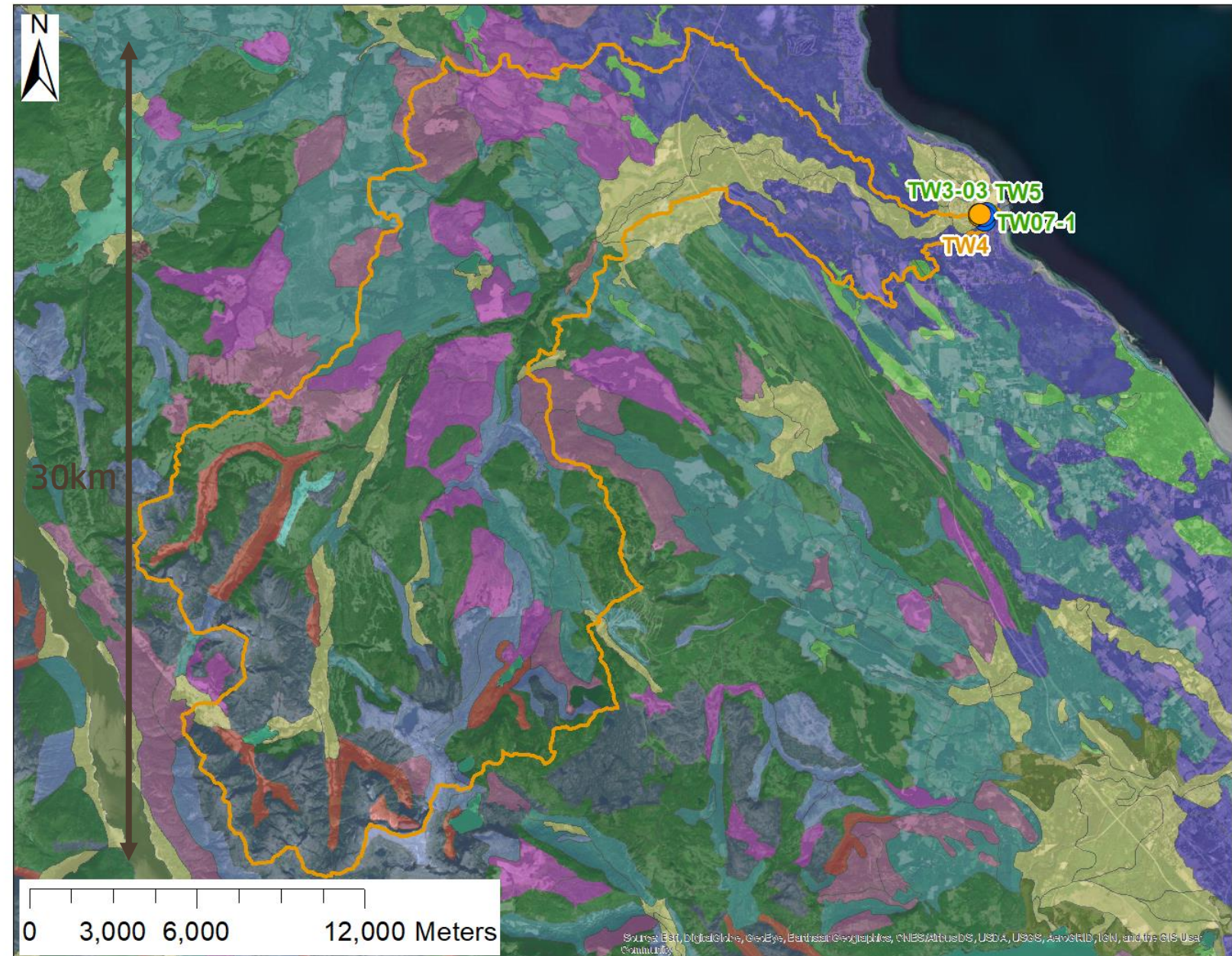
- Type of aquifers on Vancouver Island
- Oyster River watershed and surficial geology
- Mapped aquifers (extent and thickness)
- Current water supply system
- Groundwater flow direction and well field capture zones

# Type of aquifers on Vancouver Island



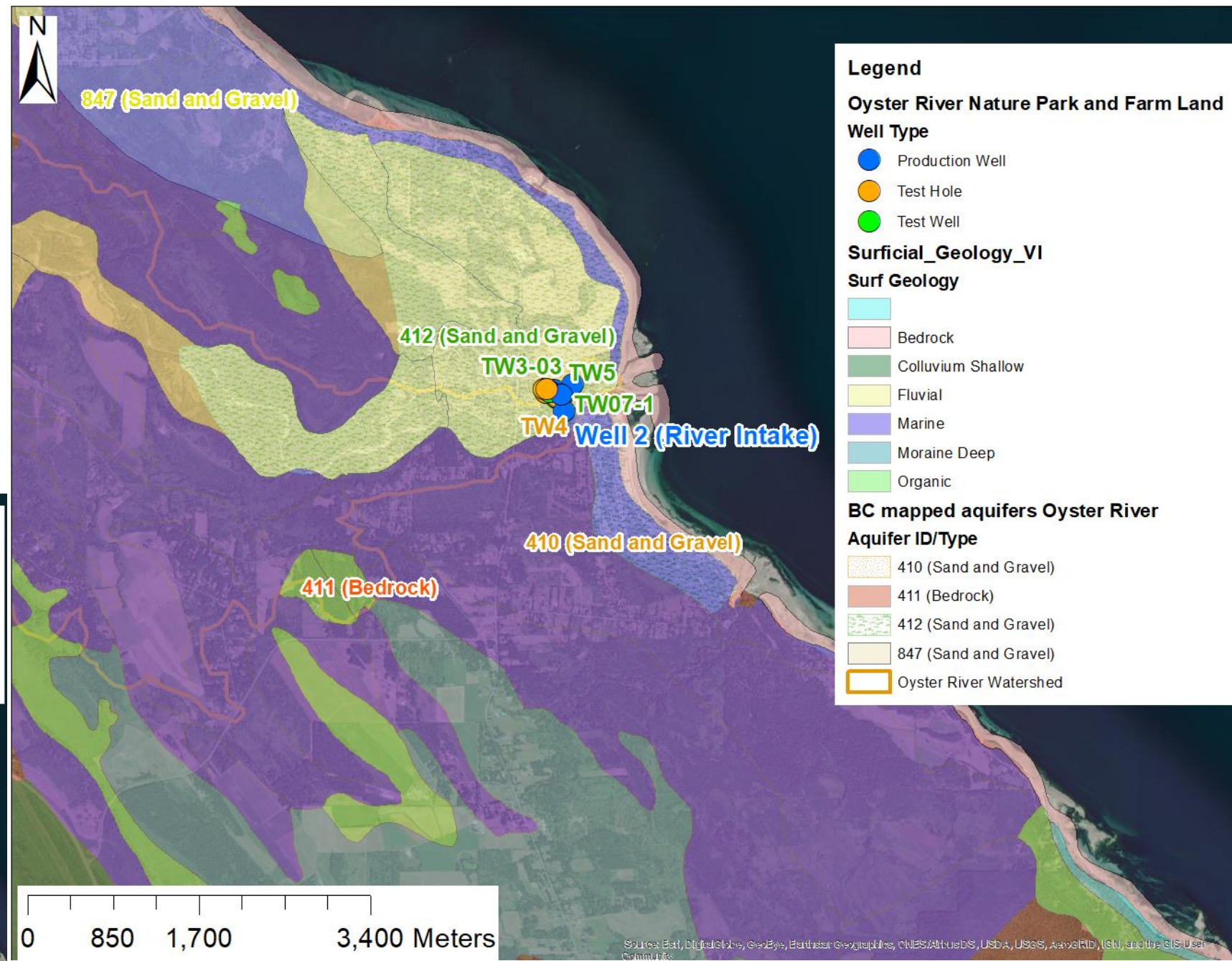
# Oyster River watershed and surficial geology

Oyster River watershed area  
361.8 km<sup>2</sup>

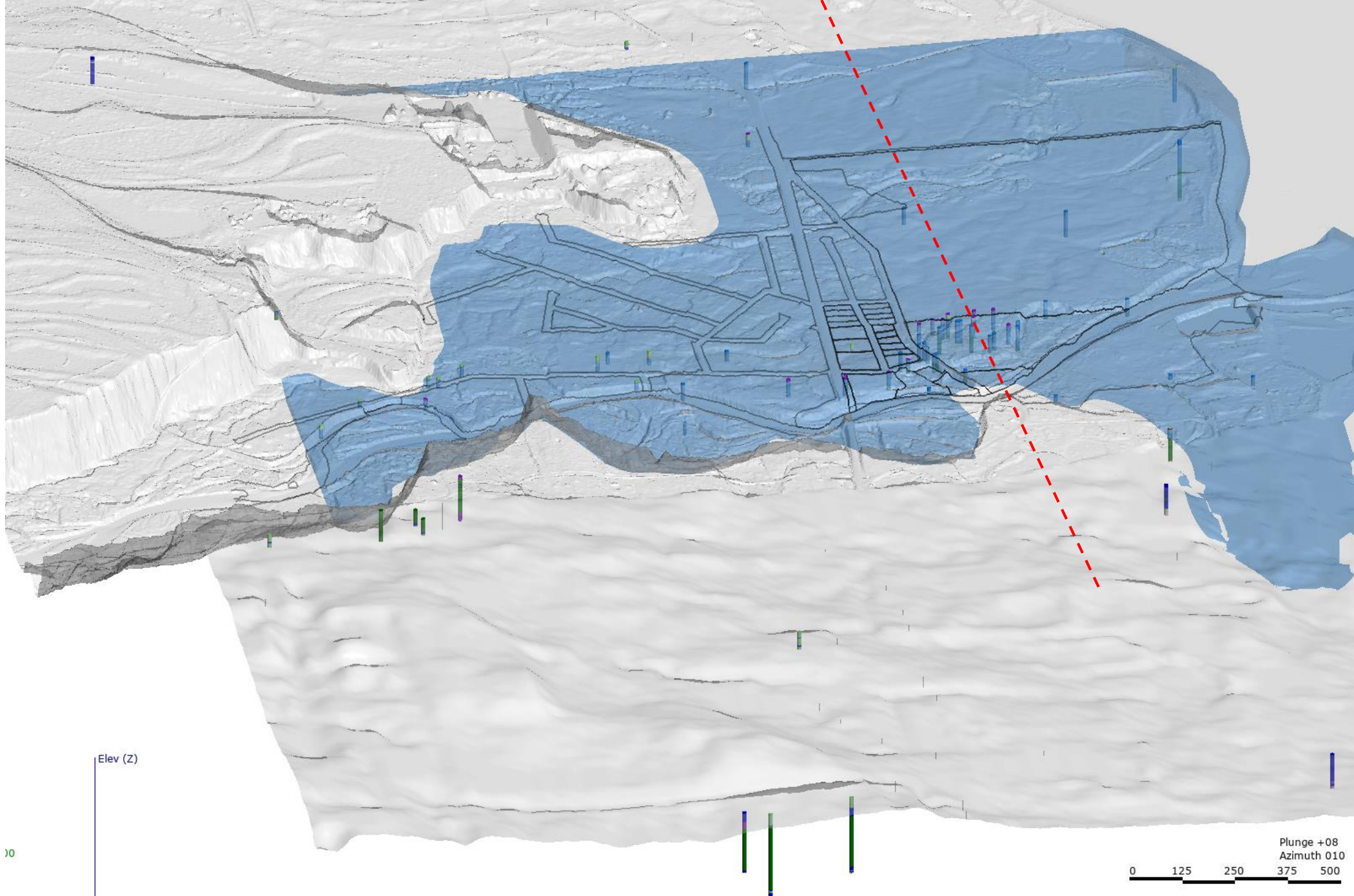


- Oyster River Nature Park and Well Type**
- Production Well
  - Test Hole
  - Test Well
  - FWA\_NAMED\_WATERSHEDS\_
  - <all other values>
- SURF\_RECLA**
- Anthropogenic
  - Bedrock
  - Colluvium Deep
  - Colluvium Middle
  - Colluvium Shallow
  - Eolian
  - Fluvial
  - Glacio Fluvial
  - Glacio Marine
  - Ice
  - Lucustrine
  - Marine
  - Moraine Deep
  - Moraine Middle
  - Moraine Shallow
  - Organic
  - Undifferentiated
- BC mapped aquifers Oyster R**
- 410 (Overburden)
  - 412 (Overburden)
  - 411 (Bedrock)

# Mapped aquifers



# Aquifer extent



Elev (Z)

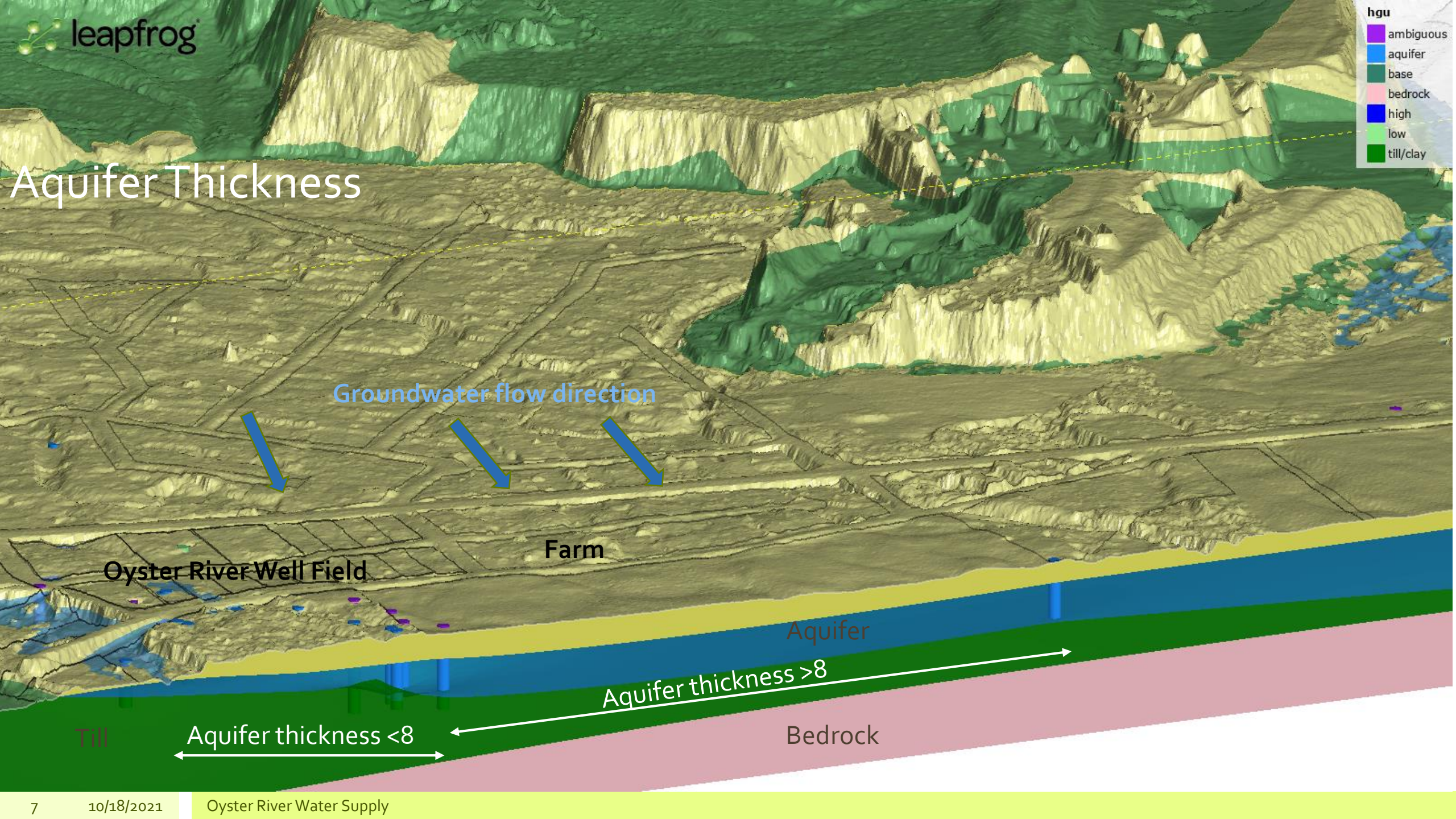
10

Plunge +08  
Azimuth 010

0 125 250 375 500

- hgu
- ambiguous
- aquifer
- base
- bedrock
- high
- low
- till/clay

# Aquifer Thickness



Groundwater flow direction

Oyster River Well Field

Farm

Aquifer

Aquifer thickness >8

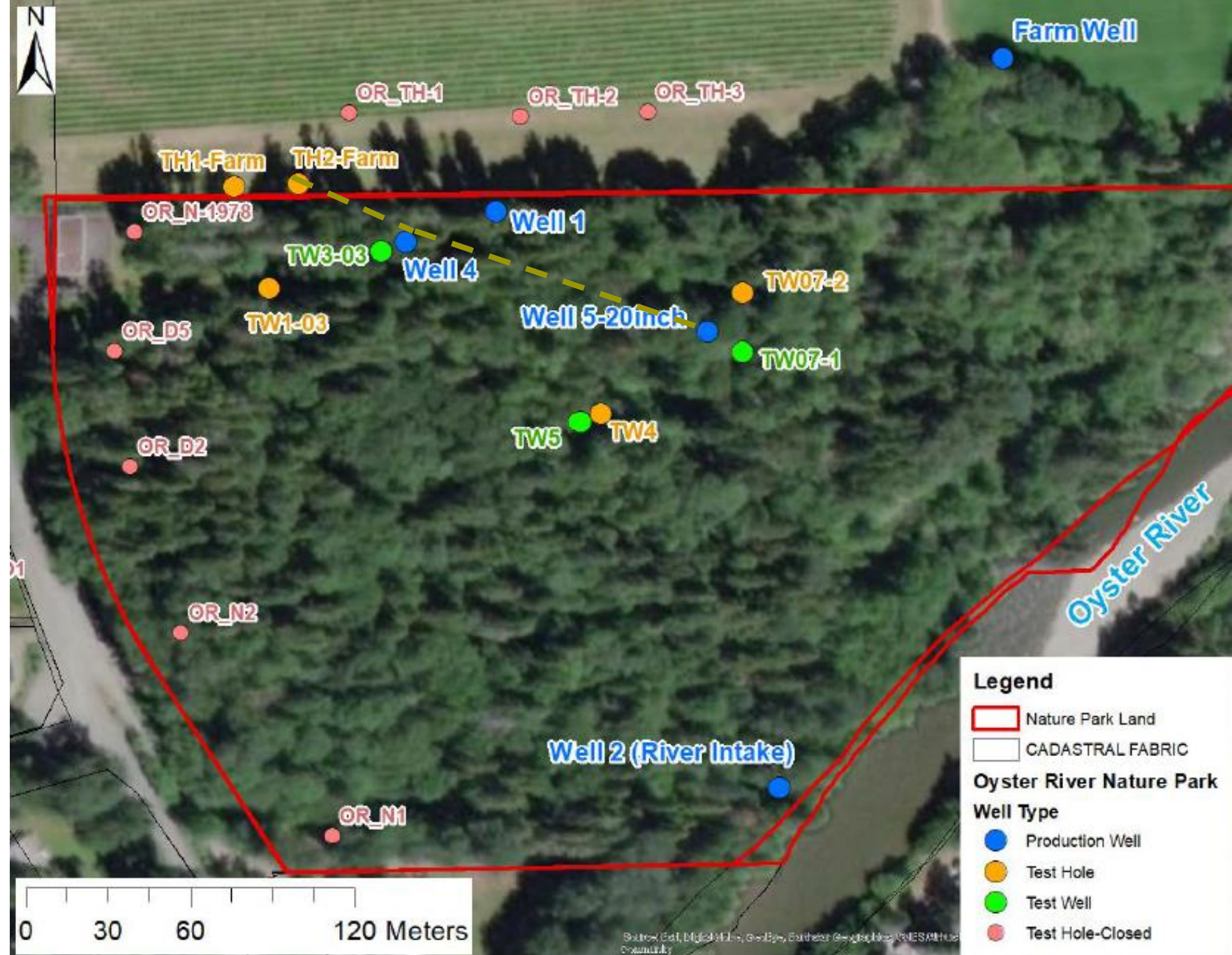
Bedrock

Aquifer thickness <8

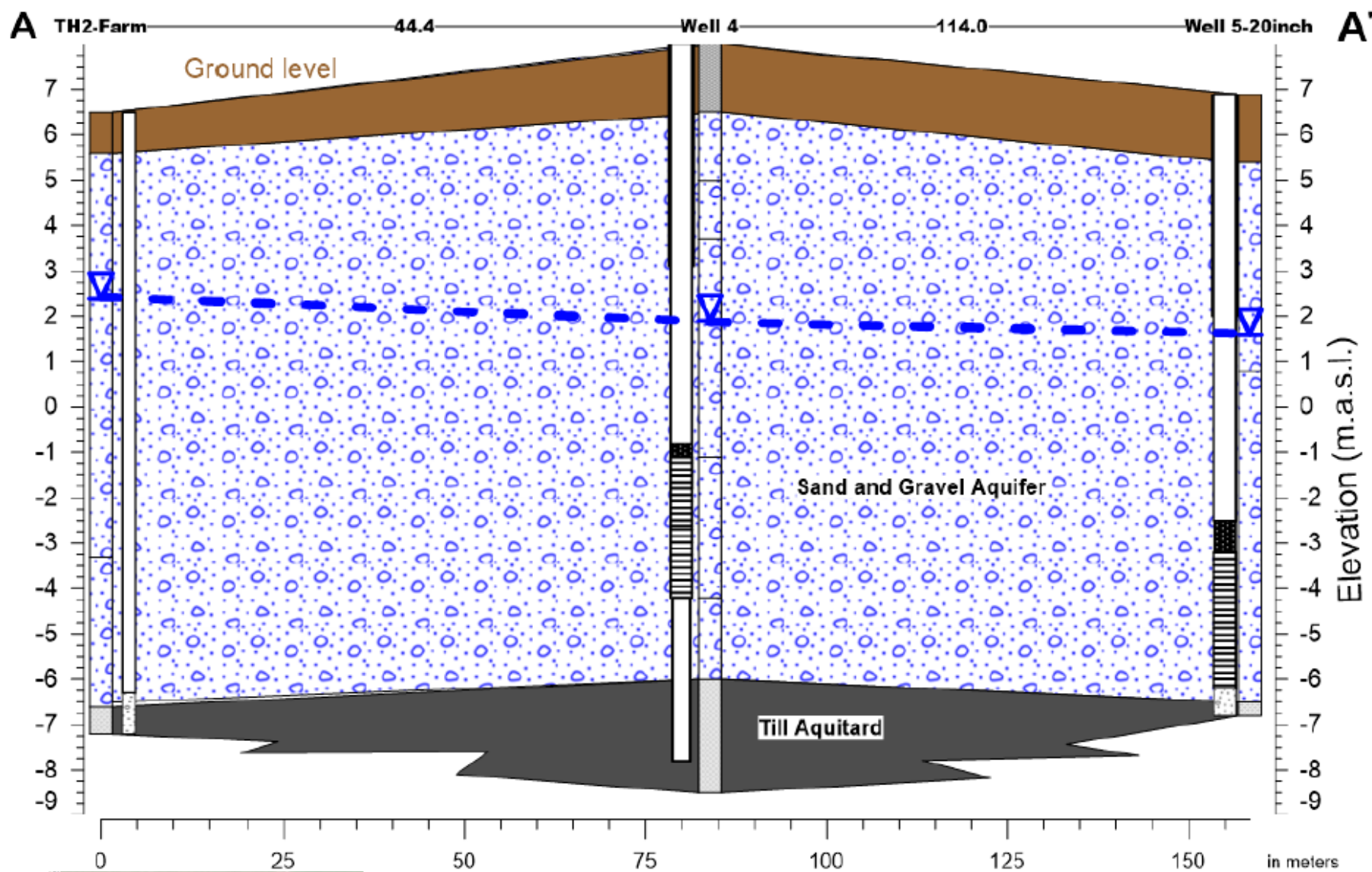
Till

# Current water supply system

- Well 1 and Well 4 currently in operation + river station (infiltration gallery) in the summer time
- The infiltration gallery shows turbidity in the winter, and becomes dry in period of extreme drought.
  - Decision to build a **new production well** as additional water source, and discontinue the infiltration gallery
- Well 5 completed in 2020 as additional water source during summer months







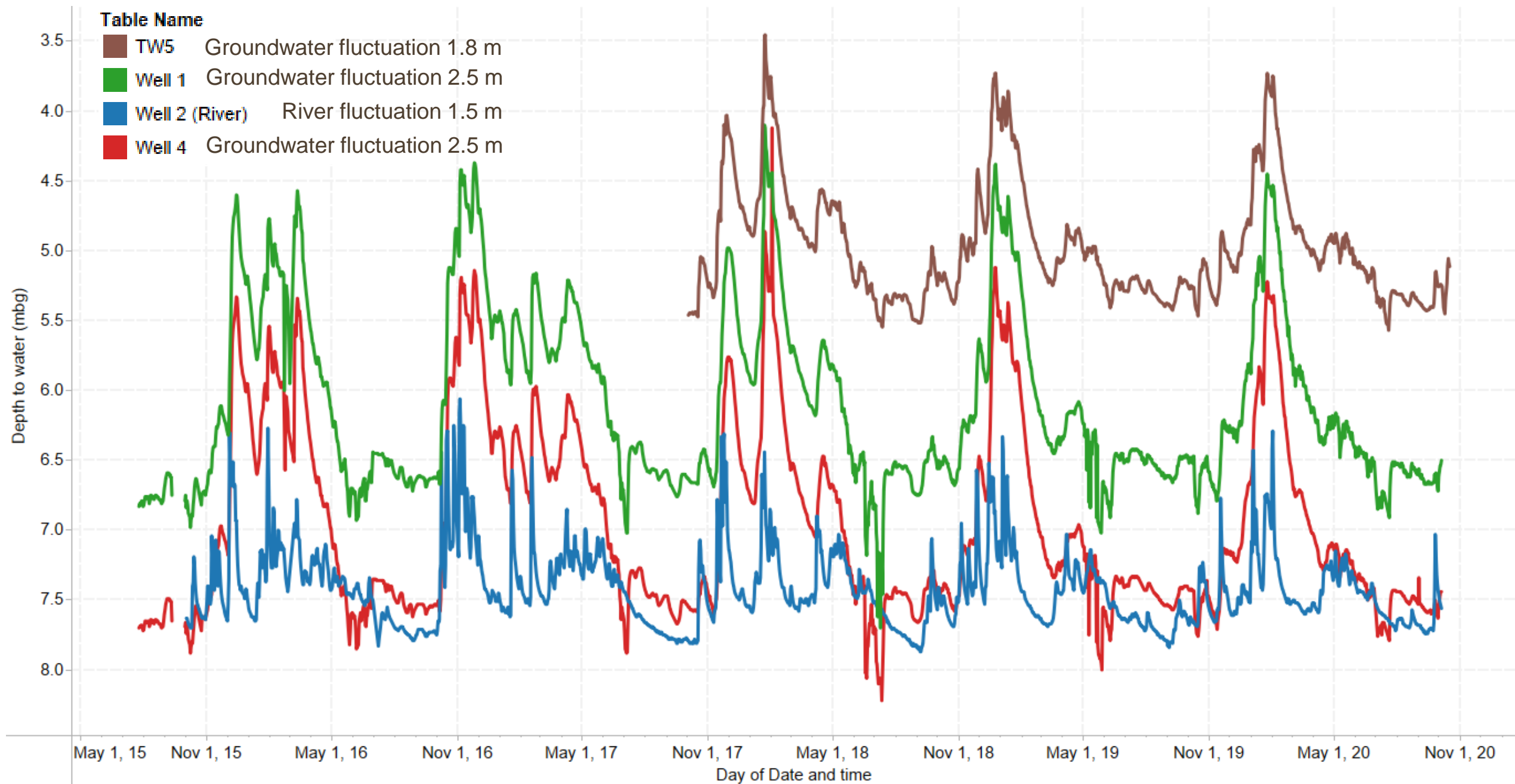
- | Lithology           |                    | Well construction details |
|---------------------|--------------------|---------------------------|
| Organic             | Silt&sand aquitard | Backfill                  |
| Sand&gravel aquifer | Till aquitard      | Casing                    |
| Sand&gravel         |                    | Surface seal              |
|                     |                    | Well Screen               |
|                     |                    | K-packer/riser            |

Cross section A-A'

Prepared by:



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Well 1 pumping (2)

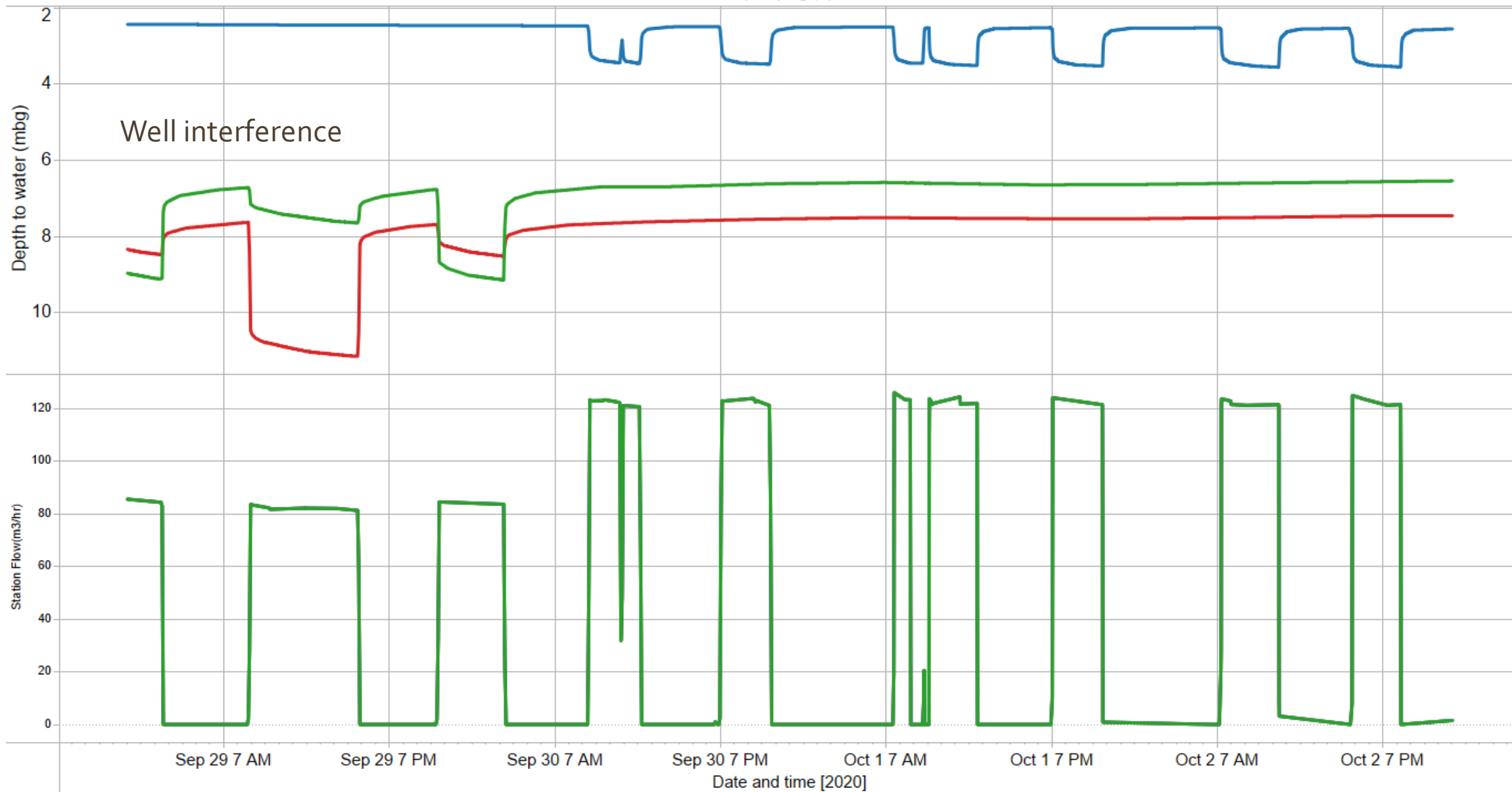


Table Name

- Well 1
- Well 2 (River)
- Well 4

# Groundwater flow direction and Capture zone

