

# Well Siting *The Basics*

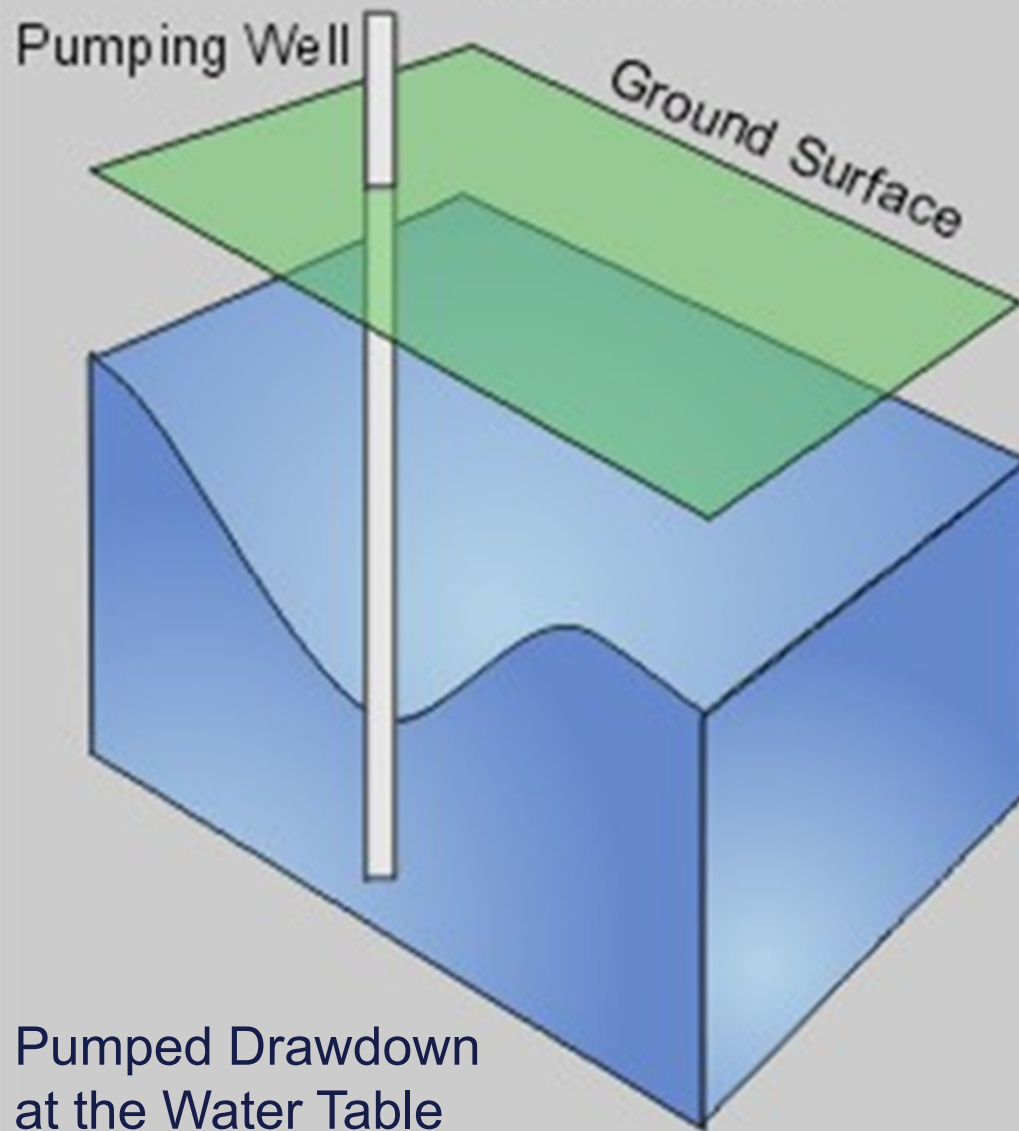
*Presented by Chris Miller*  
*Thursday November 2, 2017*



# Reasons for A New Well

- *Failure/Replacement*
- *Additional Quantity*
- *Water Quality*
  
- *Finding a well to meet your needs is becoming harder and harder....*



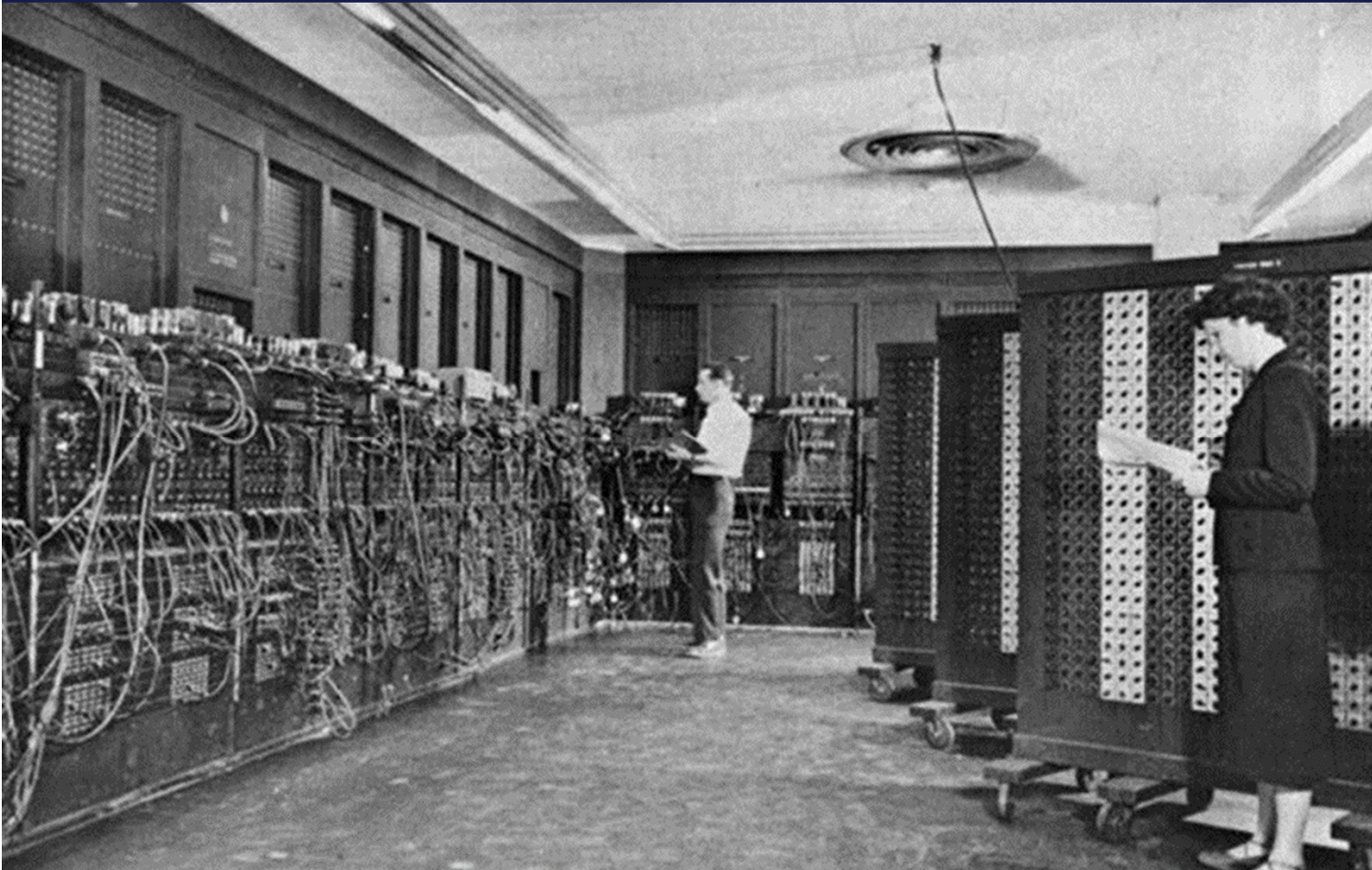


# Vertical Well System



# Tools Can Assist Us!

- Geographical Information System (GIS) has made our job a little easier



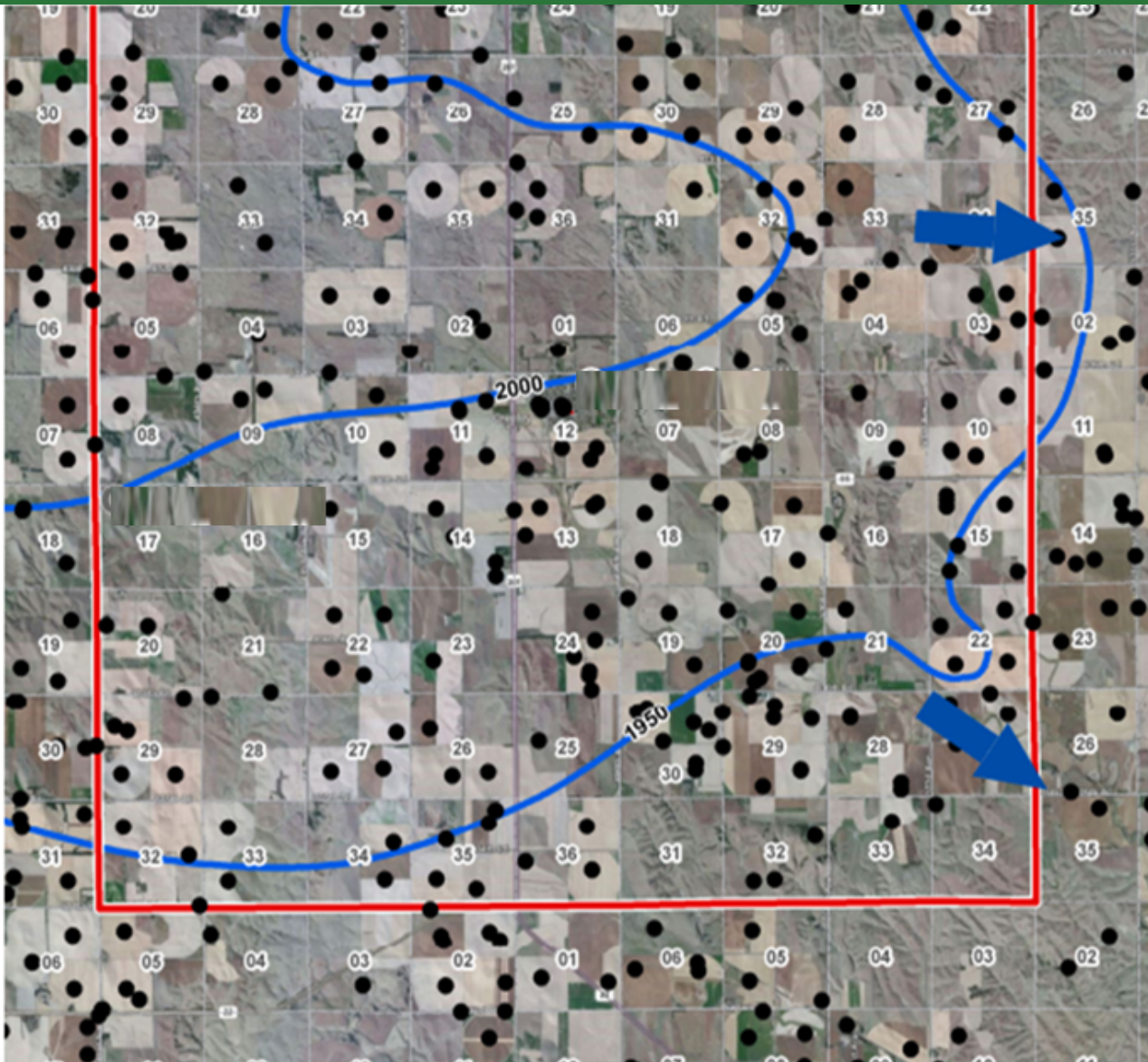
We are going to walk through an example of a project where the community has an existing WTP and needs to renovate it completely. The community wanted to evaluate the cost for a new source –VS– renovations.



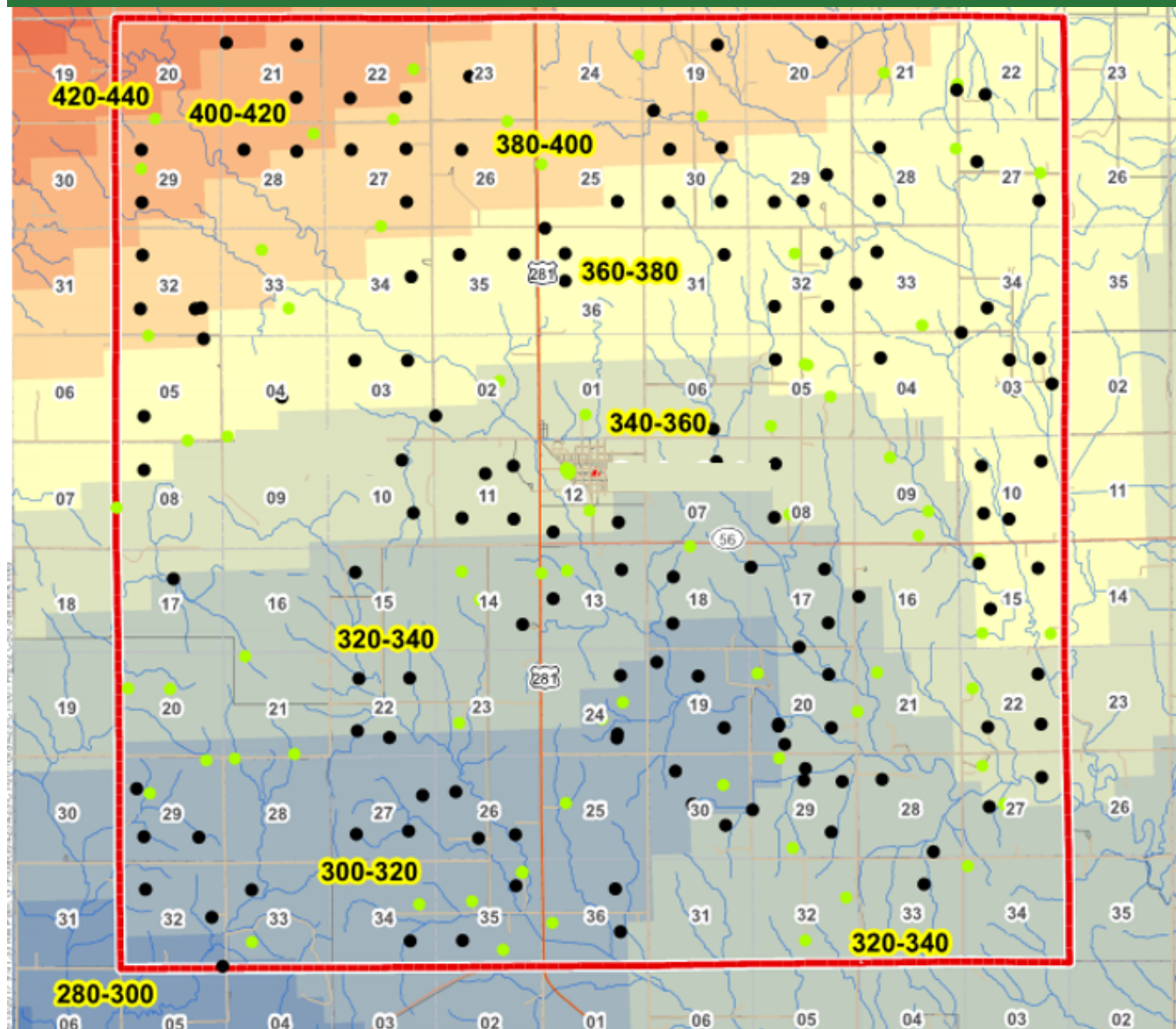
Example



# Well and GW Flow Direction

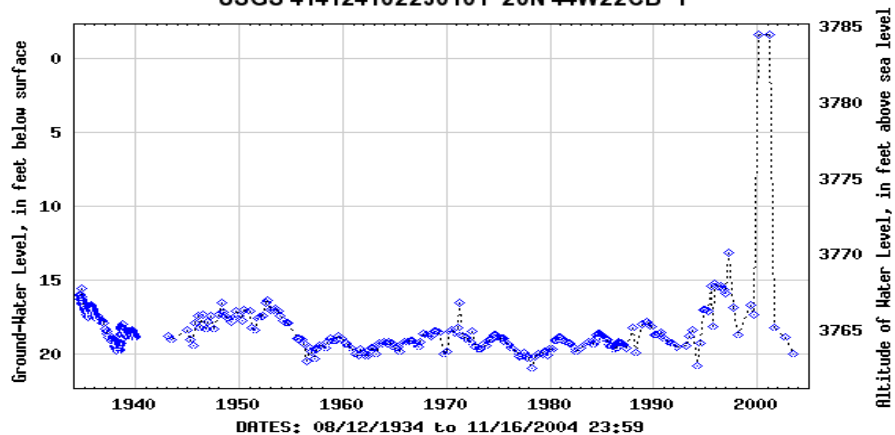


# Saturated Thickness





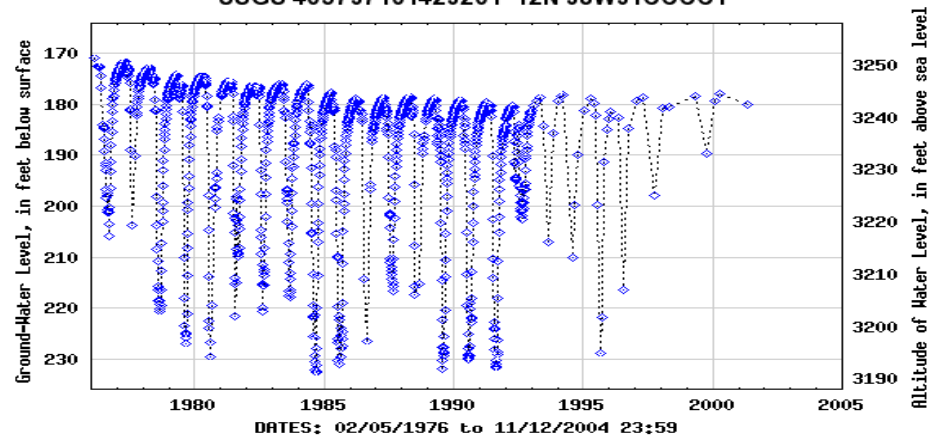
USGS 414124102230101 20N 44W22CB 1



Provisional Data Subject to Revision



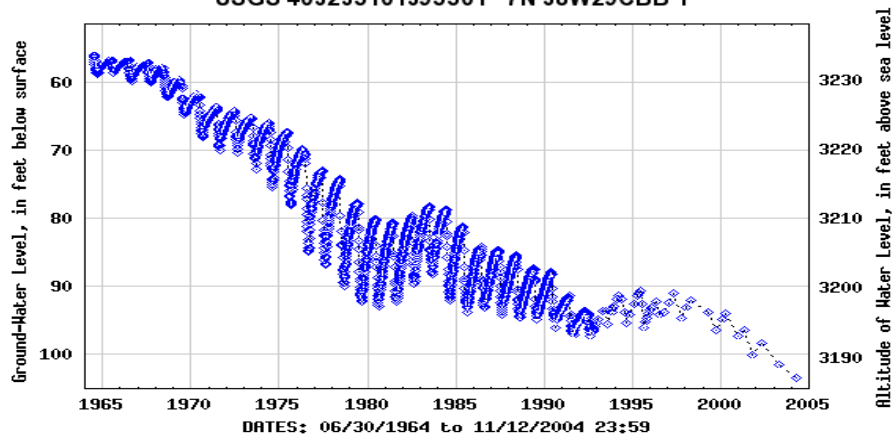
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Provisional Data Subject to Revision



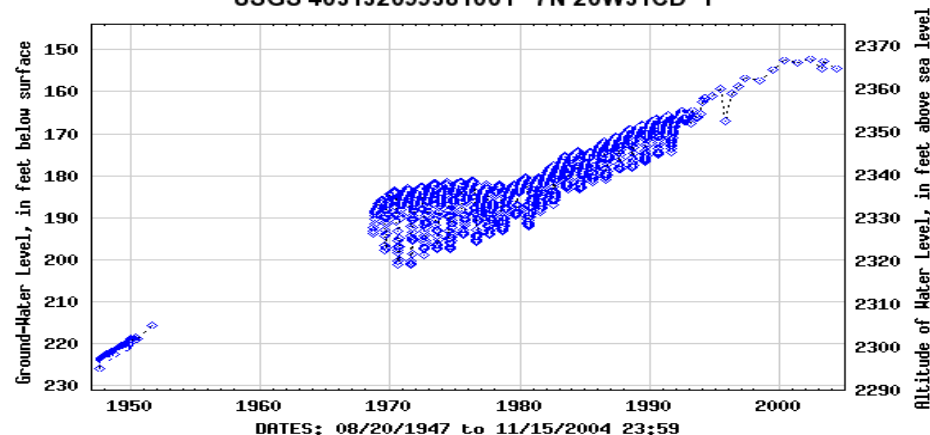
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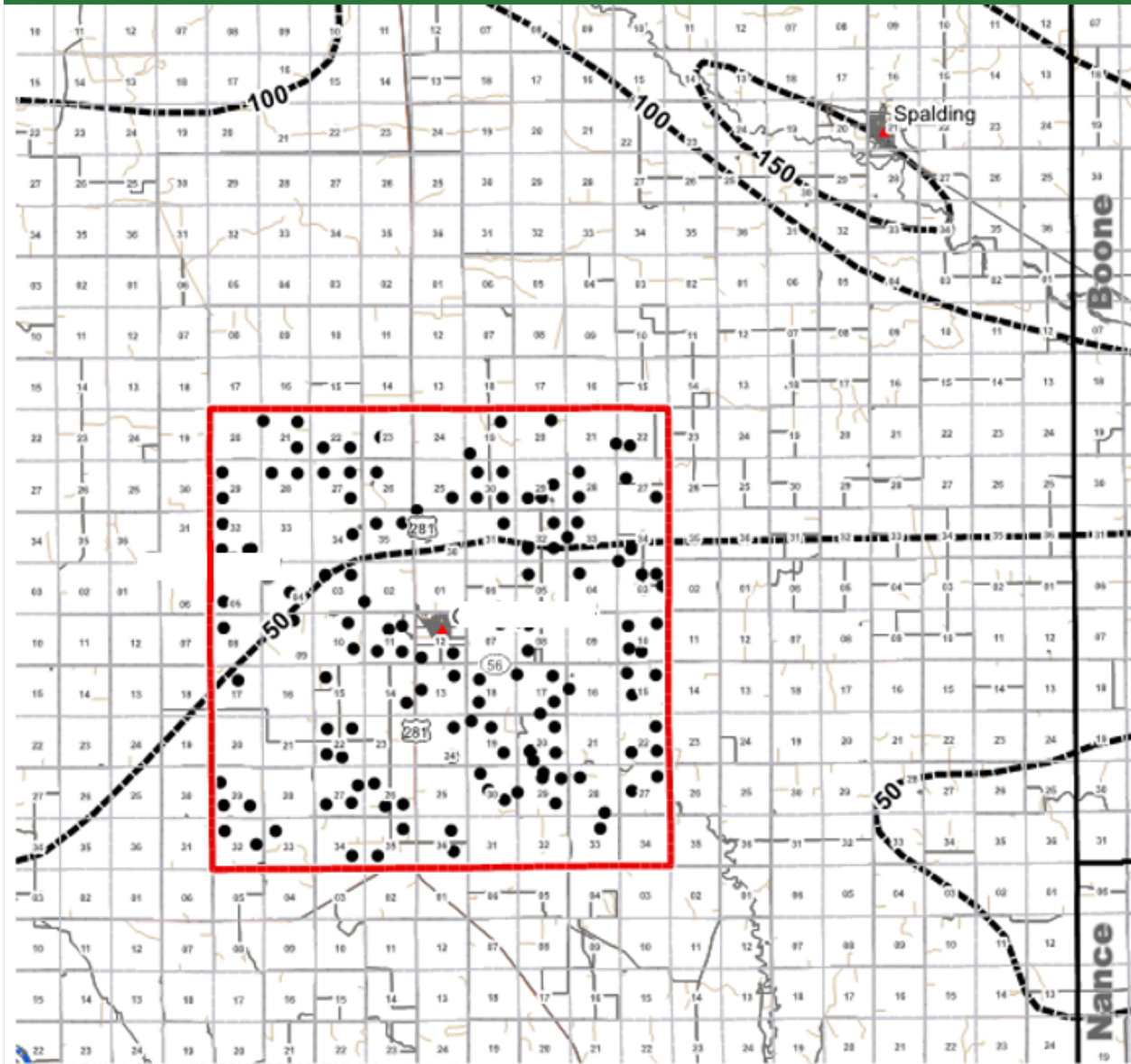
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Provisional Data Subject to Revision

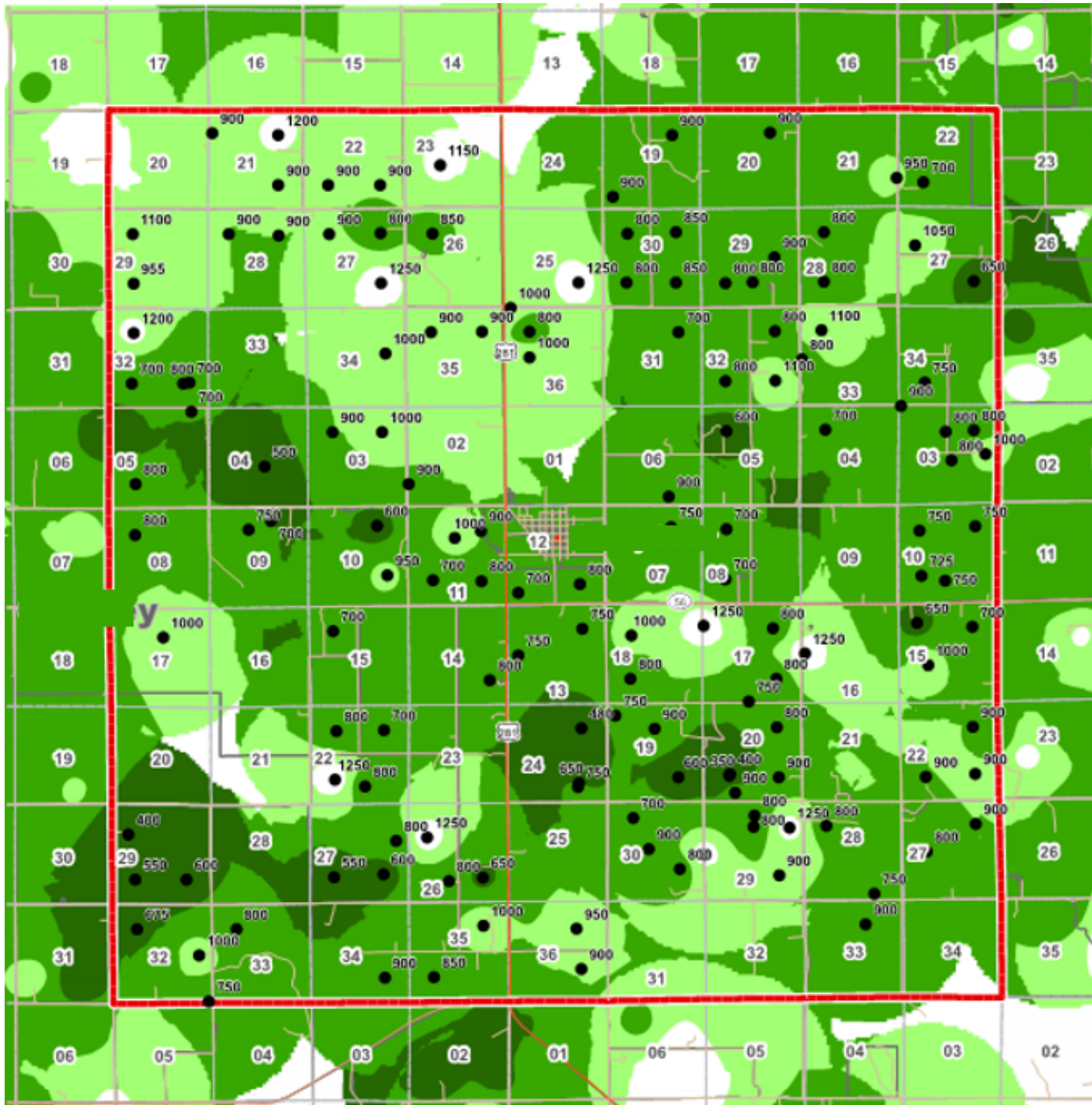
# Historical Water Level Records





Transmissivity  
(water  
movement)

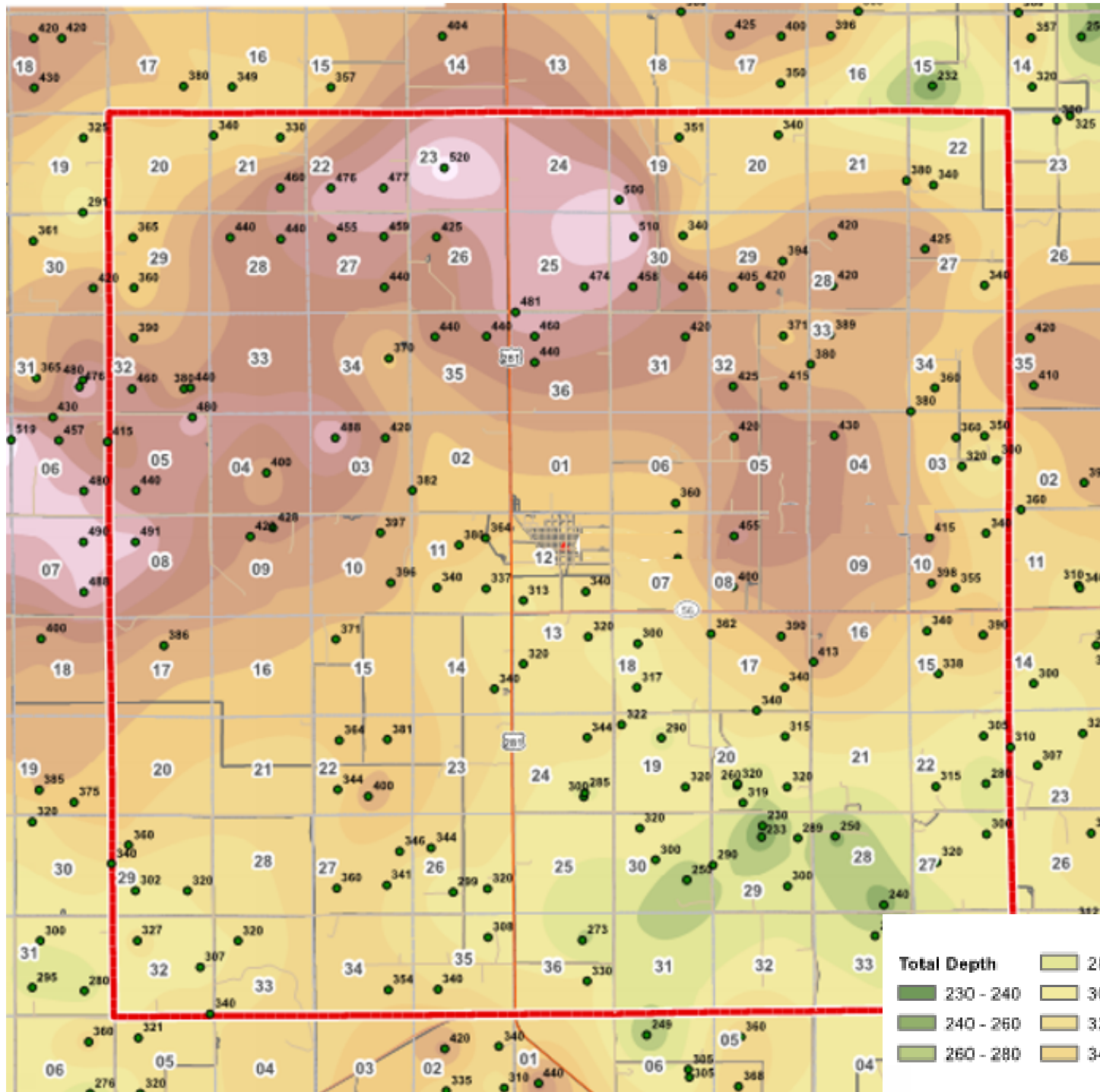
**M&A**



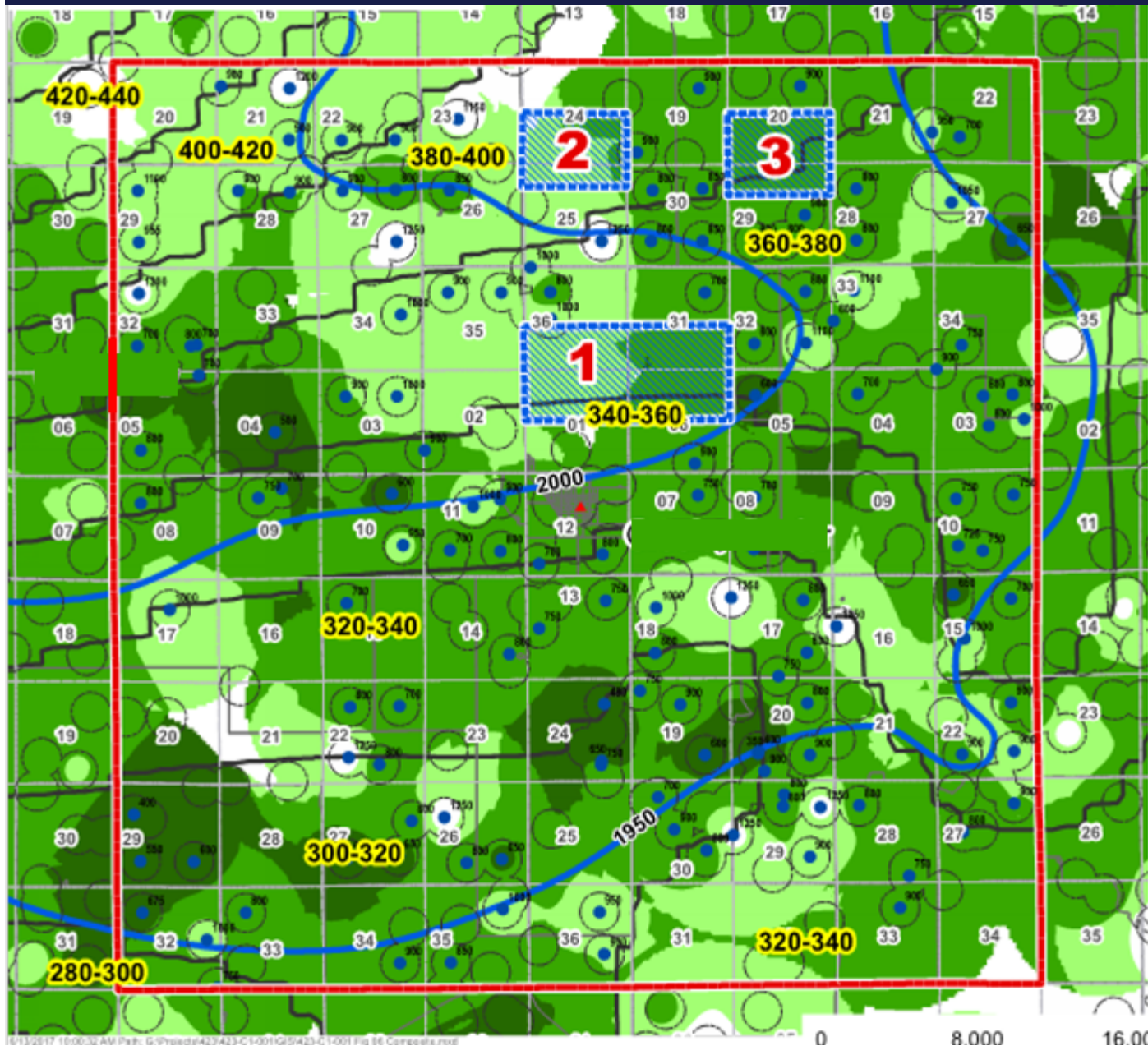
# Well Production

**M&A**

# Well Depth



# Composite Map

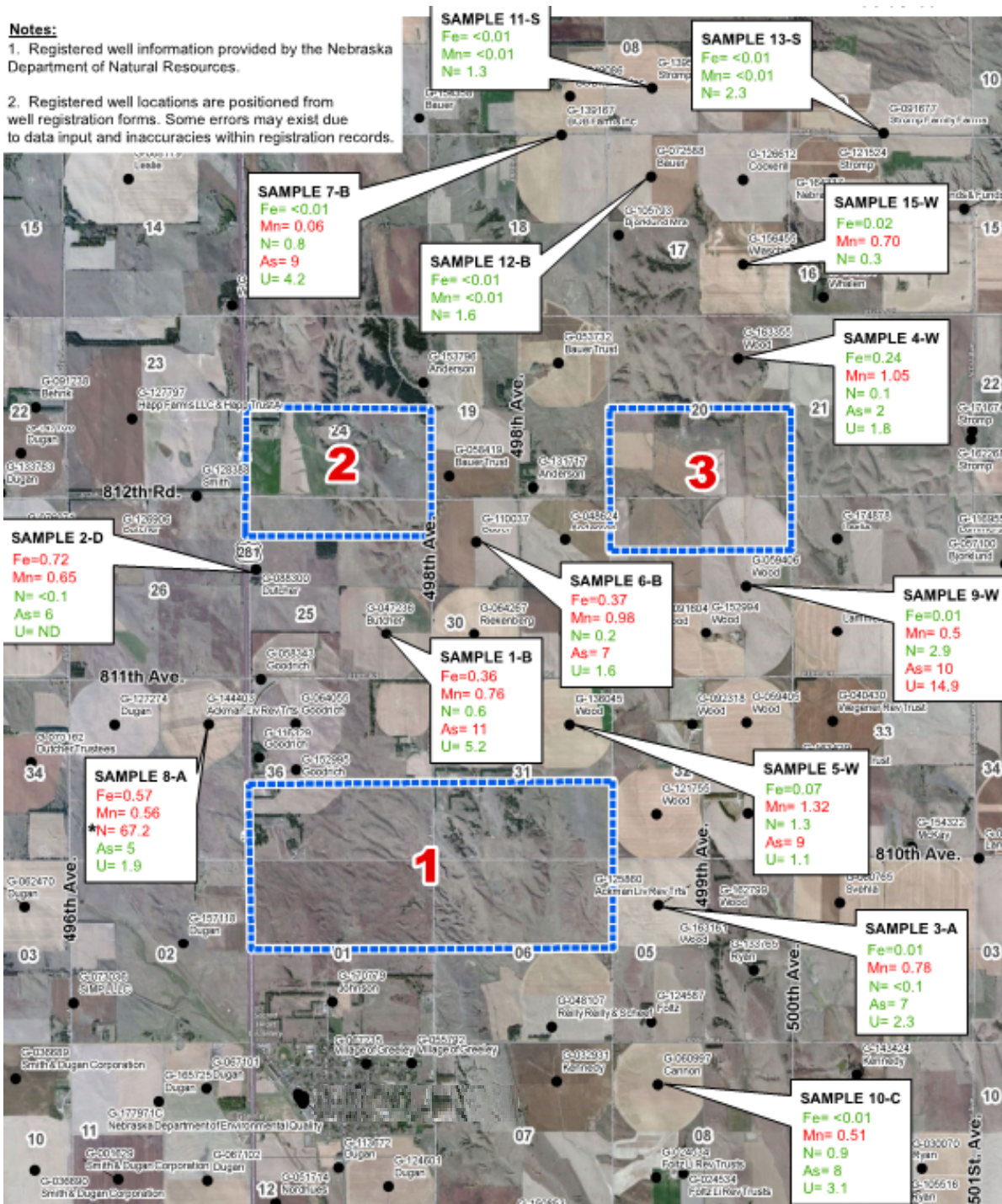


M&A

**Notes:**

1. Registered well information provided by the Nebraska Department of Natural Resources.

2. Registered well locations are positioned from well registration forms. Some errors may exist due to data input and inaccuracies within registration records.



# Quality – Sample Collection



# Comments/Questions



**MA**  
**Miller & Associates**  
CONSULTING ENGINEERS, P.C.