

Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County

Crooked Lake Site

January 9, 2018 – Presentation to District's
Environmental Advisory Committee

Southwest Florida
Water Management District



Agenda

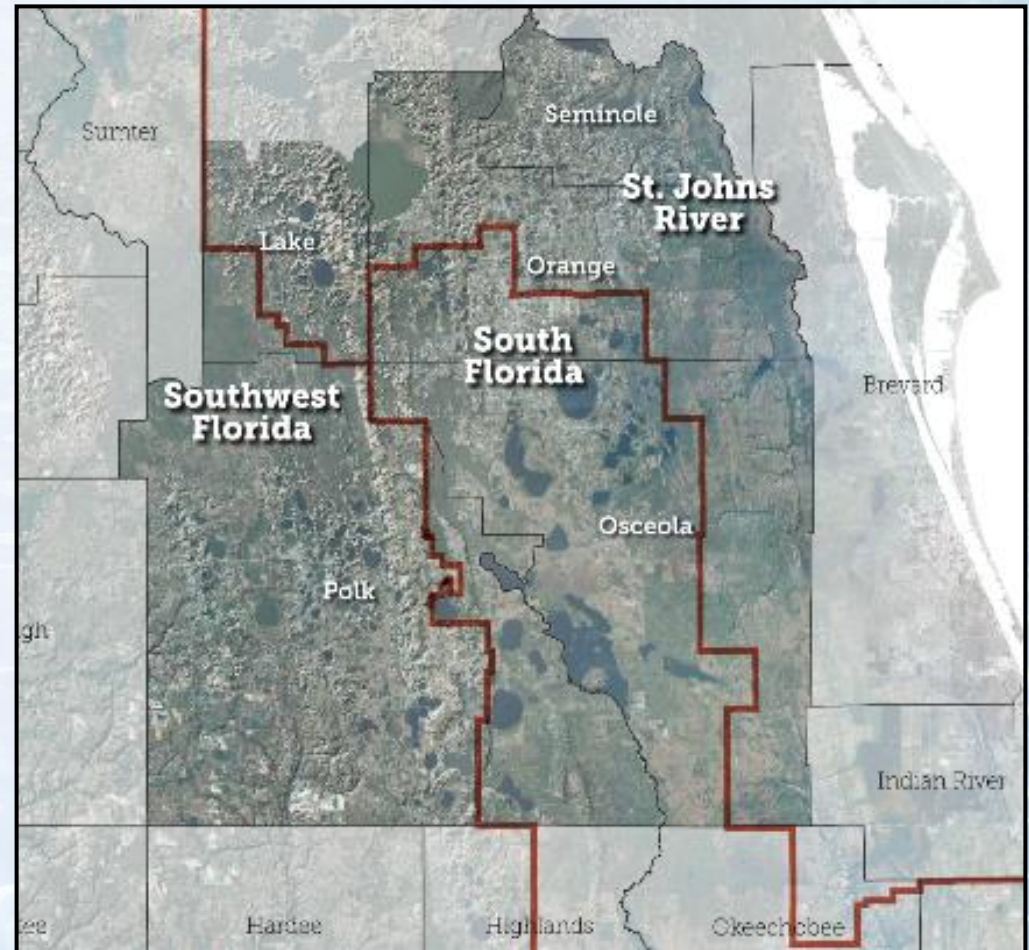
- **Project Location**
- **Project Overview**
- **Crooked Lake Status**
- **Communications**
- **Status of Related Investigations**

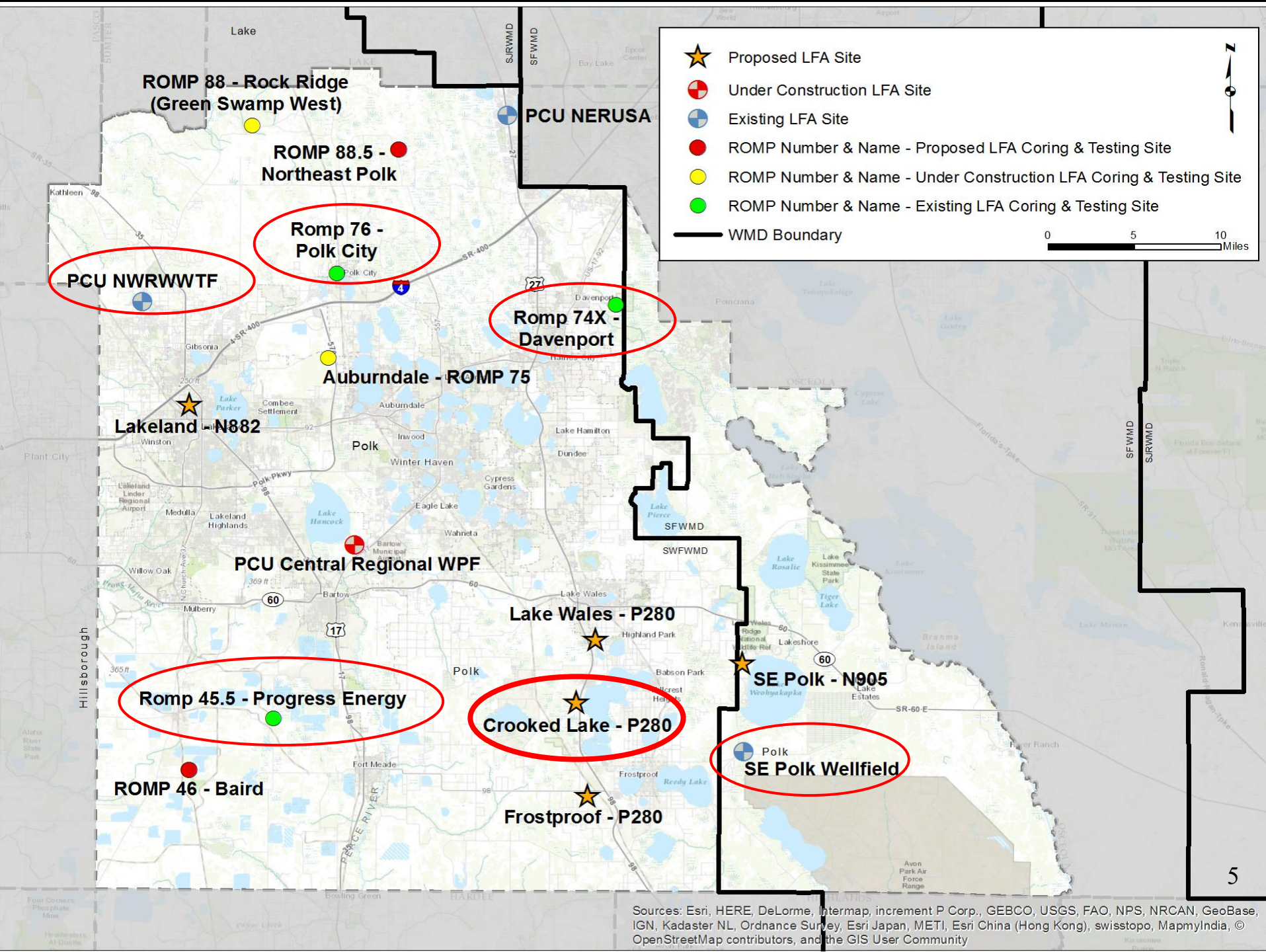
Project Video: WaterMatters.org/LFA



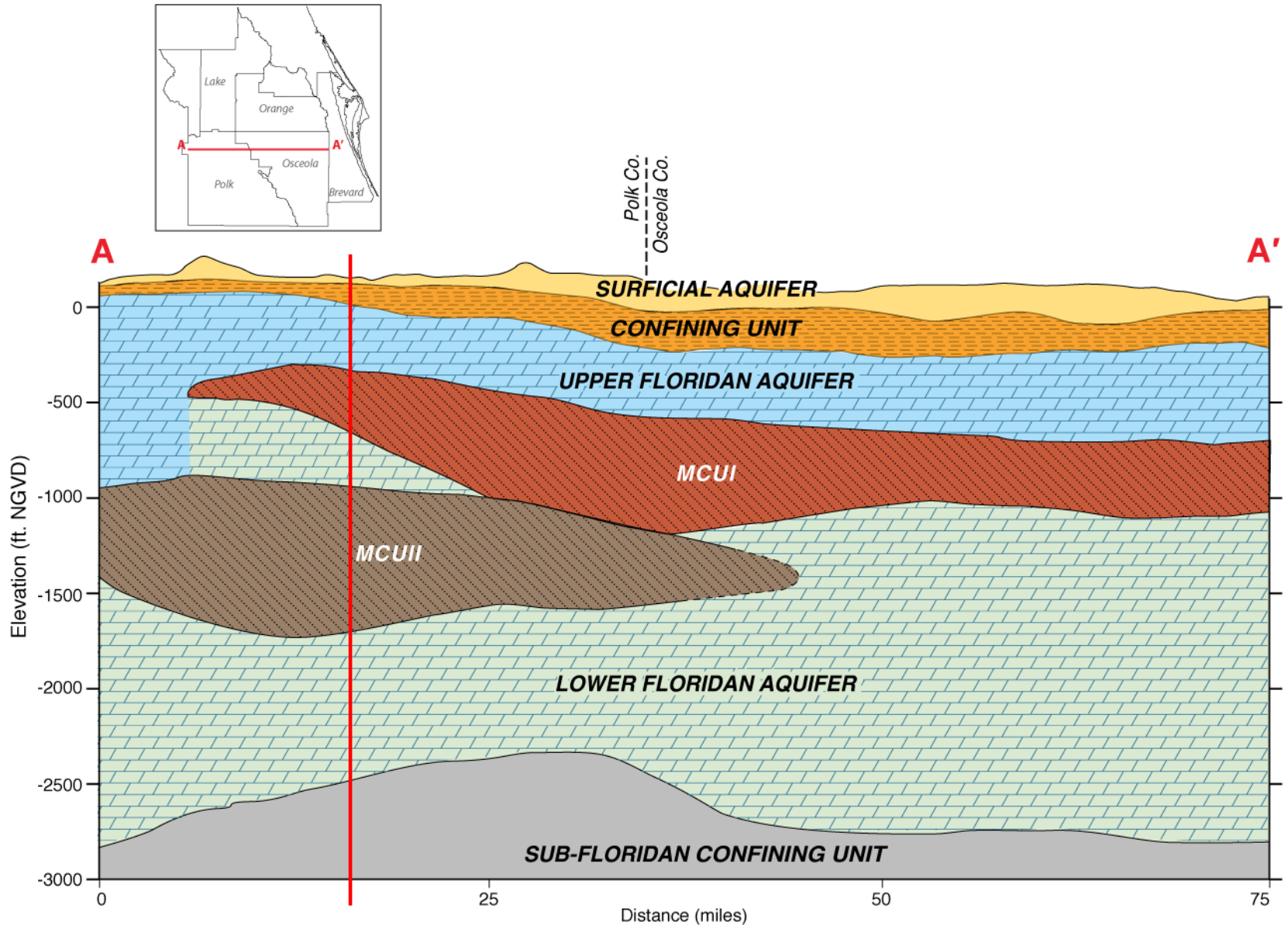
Central Florida Water Initiative (CFWI)

A collaborative regional water supply planning effort to protect, develop, conserve and restore central Florida's water resources





Generalized Hydrogeologic Cross Section A-A'



Project Overview

- Three-year testing program in two phases
- Phase 1
 - Initial drilling and testing
 - Installation of multiple monitor wells
- Phase 2
 - Drilling and testing of test/production wells
 - Aquifer performance tests:
 - Aquifer characteristics
 - Water quality

Crooked Lake Well Site

A project to explore the Lower Floridan aquifer in Polk County is under way at this site. For more information, call the Southwest Florida Water Management District at:

1-800-423-1476, ext. 4212

*Southwest Florida
Water Management District*

Funded by the
Southwest Florida Water Management District



Versa-Drill coring rig

Crooked Lake LFA Site Update

- Project started January 2017
- Upper Floridan aquifer (UFA) and surficial aquifer (SA) wells completed
- LFA coring completed
 - Coring
 - Packer tests
 - Water quality testing
 - Geophysical logging
- USGS Optical Borehole Imaging and age dating

Removal of core sample



10 foot cores



Limestone



Dolomite with infill of gypsum and organics

Limestone with laminations/gypsum



Limestone with infill of gypsum and anhydrite

Porous dolomite



Crystalline dolomite and anhydrite



SA and
UFA
monitor
wells



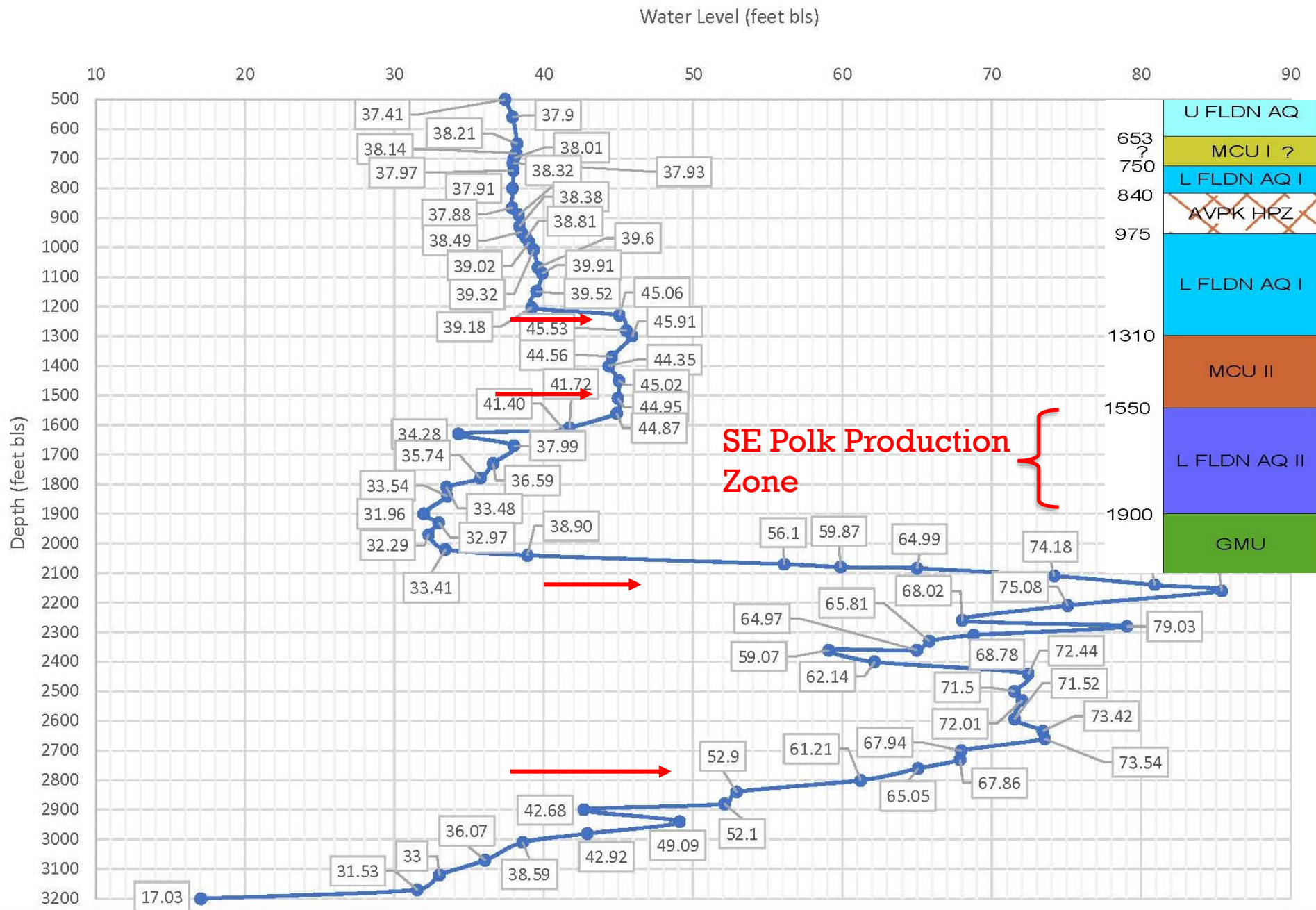
Storage of brackish water

Disposal of blended water



P280 SWFWMD Hydrogeologic Investigation of the Lower Floridan Aquifer

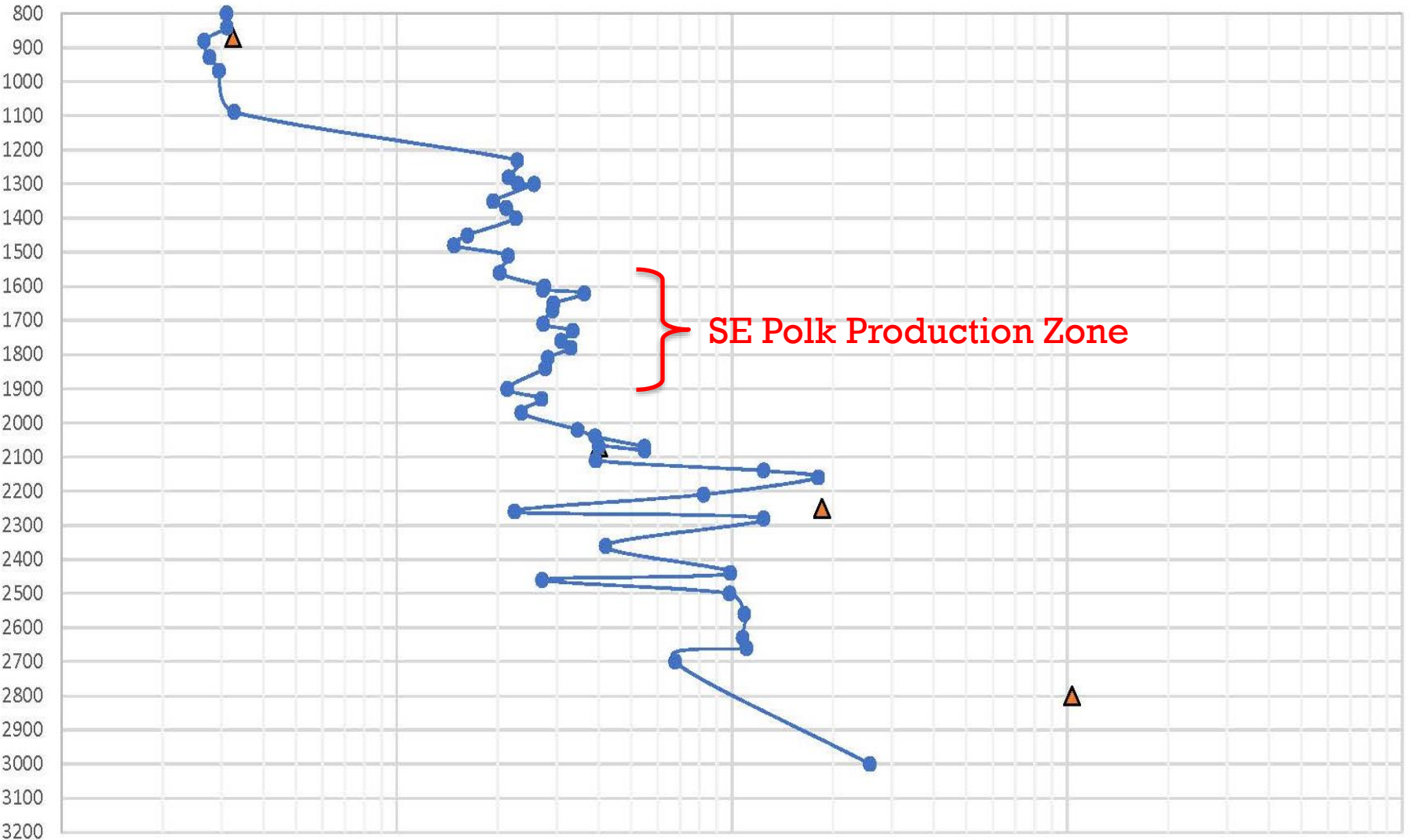
Static Water Level Depth Profile During Drilling Well CL-EC



P280 SWFWMD Hydrogeologic Investigation of the Lower Floridan Aquifer Specific Conductance Depth Profile During Drilling Well CL-EC

Specific Conductance ($\mu\text{S}/\text{cm}$)

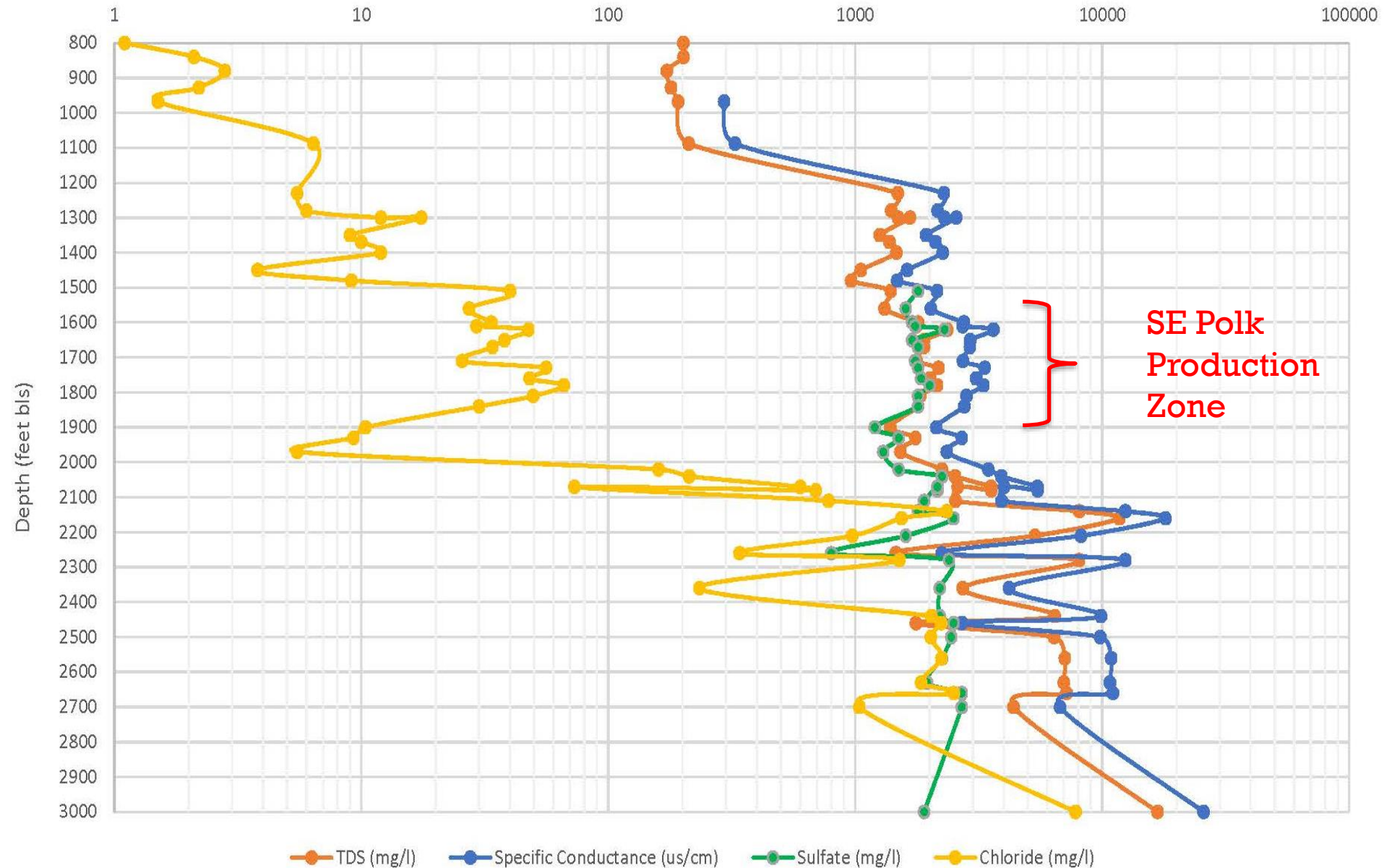
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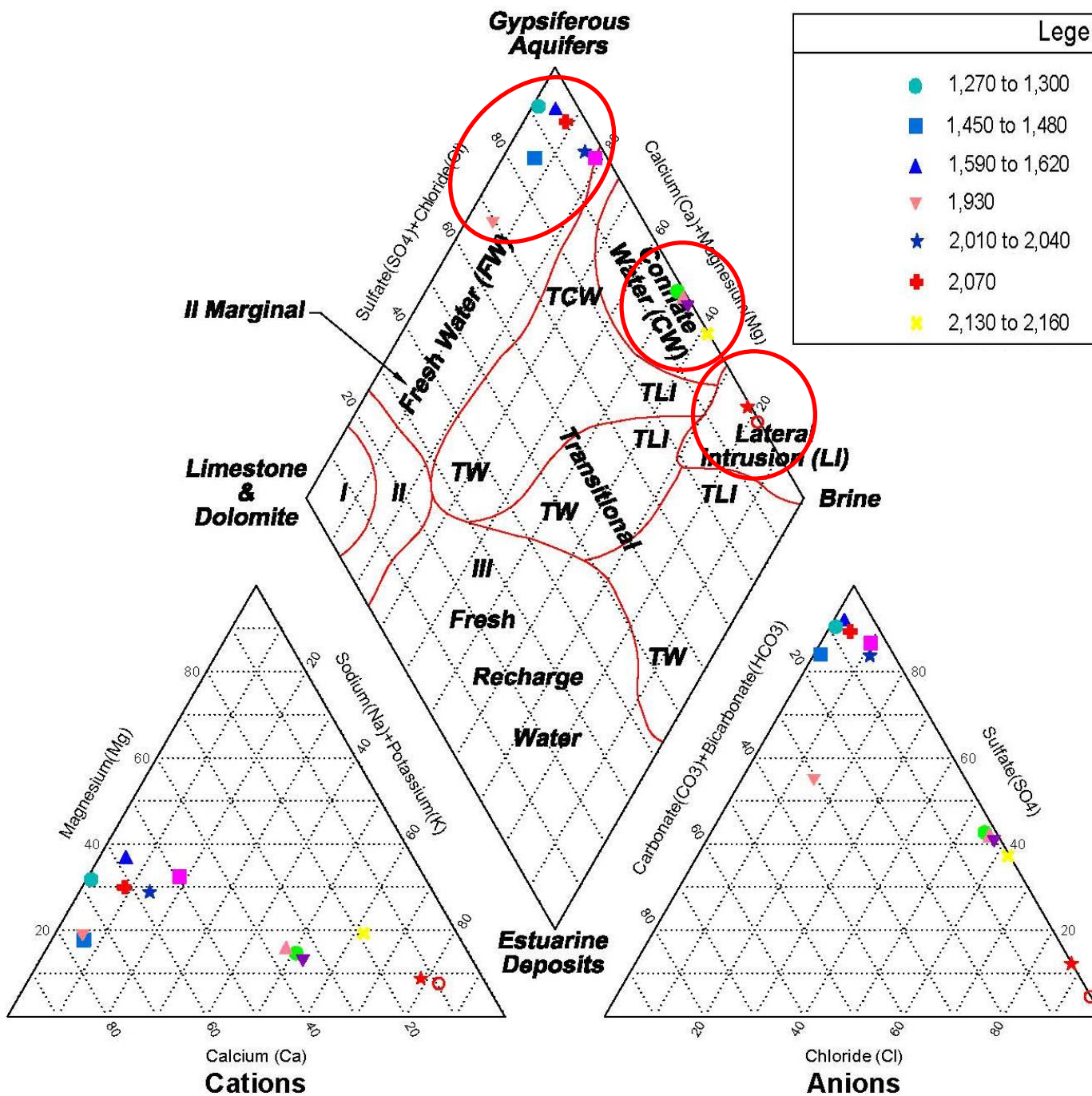


▲ Thief Sample Specific Conductance ($\mu\text{S}/\text{cm}$)

● Specific Conductance ($\mu\text{S}/\text{cm}$)

P280 SWFWMD Hydrogeologic Investigation of the Lower Floridan Aquifer Specific Conductance Depth Profile During Drilling Well CL-EC





Next Steps at Crooked Lake

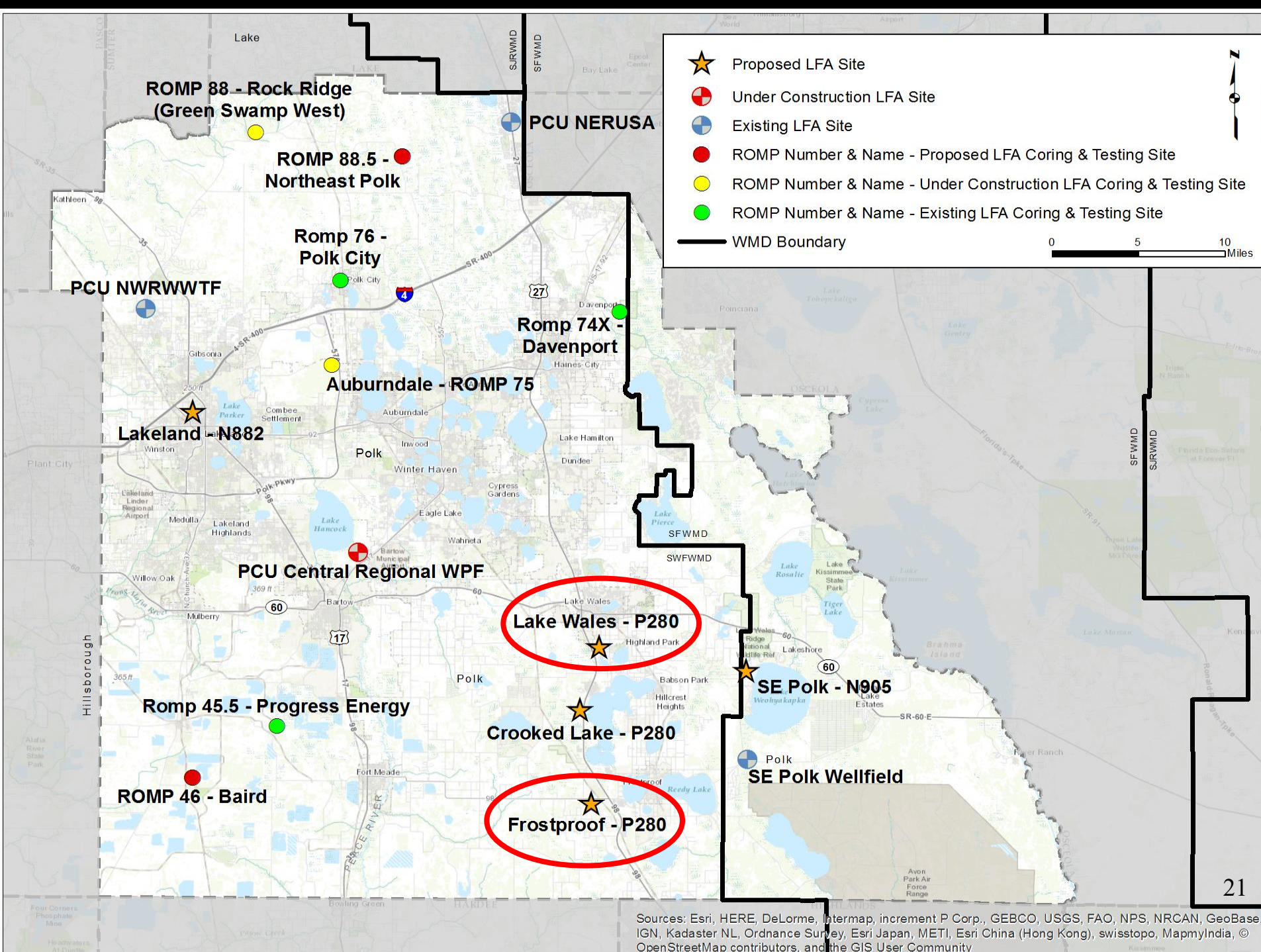
- Complete LFA monitor well (below Middle Confining Unit I) with Huss Drilling
- Select contractor for construction of LFA dual zone monitor well (below Middle Confining Unit II)
 - January 2018: Piggyback agreement
 - April 2018: Start construction

Communications

- Video released on District's Facebook and Twitter on July 21, 2017



- LFA webpage launched July 25, 2017
 - WaterMatters.org/LFA
- Future workshops/Input





QUESTIONS and COMMENTS



3,000 foot core sample