**FORMER TIERNAN PROPERTY** **ISGS #57**
**POTENTIAL WETLAND MITIGATION SITE**
FAP 14
Sequence #27
Saint Clair County, near Cahokia, Illinois
**Primary Project Manager: Steven E. Benton**
**Secondary Project Manager: Jessica Monson**

SITE HISTORY

- July 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.

- July 2005: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2005–11).

WETLAND HYDROLOGY CALCULATION FOR 2011

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) in 2011 for greater than 5% of the growing season was estimated to be 21.7 ha (53.7 ac) out of a total site area of 26.4 ha (65.3 ac), and the area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was estimated to be 21.4 ha (52.9 ac). Using the 2010 Midwest Region Supplement (U.S. Army Corps of Engineers 2010) to the 1987 Manual, we estimate that 21.7 ha (53.7 ac) satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- The median date that the growing season begins in nearby Cahokia, Illinois, is April 2 and the season lasts 214 days (MRCC 2011); 5% of the growing season is 11 days and 12.5% of the growing season is 27 days, according to the 1987 Manual. According to methods outlined in the 2010 Midwest Region Supplement, we estimate that March 1 was the starting date of the 2011 growing season based on soil temperatures measured at the potential wetland mitigation site.

- Total precipitation recorded at the Belleville, Illinois, weather station during the monitoring period was 114% of normal, and total precipitation in Spring 2011 (March through May) was 144% of normal.

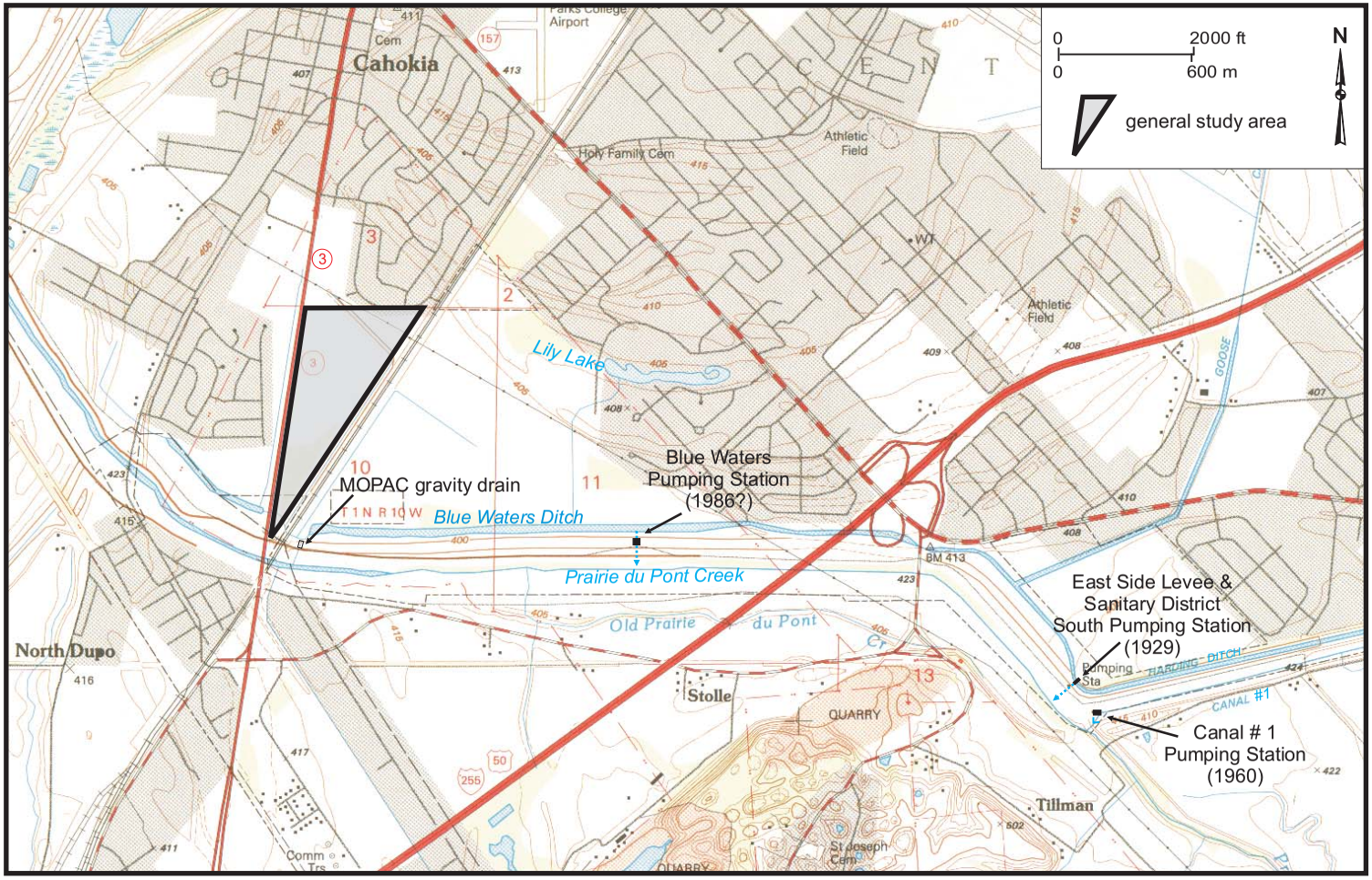
- In 2011, water levels measured in all of the soil-zone monitoring wells, except 6S and 23VS, satisfied wetland hydrology criteria for greater than 5% of the growing season, and water levels measured in all of the soil-zone monitoring wells, except 6S, 23VS and 23S, satisfied wetland hydrology criteria for greater than 12.5% of the growing season, according to the 1987 Manual. According to the 2010 Midwest Region Supplement, water levels measured in all of the soil-zone monitoring wells except 6S and 23VS satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

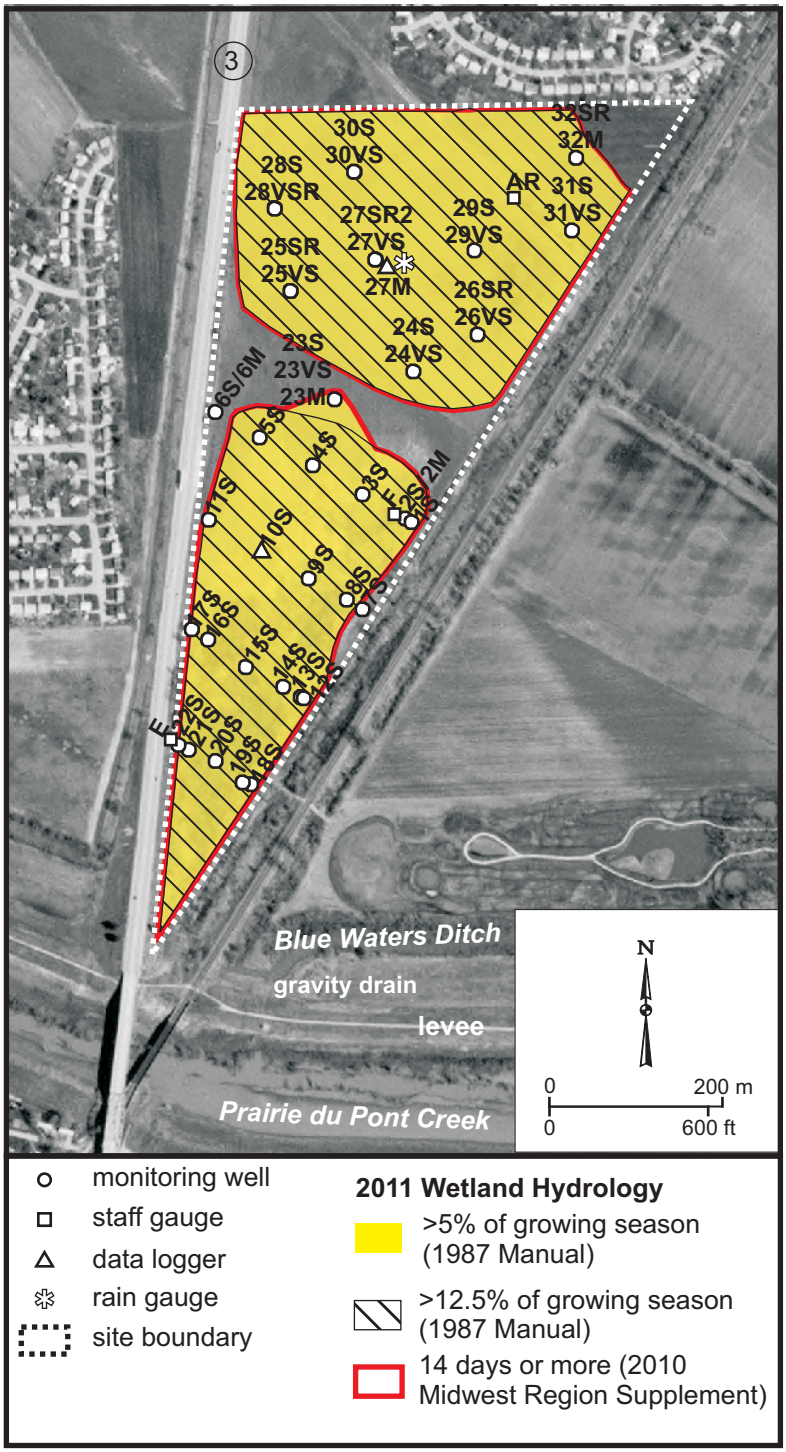
# Former Tiernan Property Potential Wetland Mitigation Site
# (FAP 14)
## General Study Area and Vicinity

from the USGS Topographic Series, Cahokia, IL, 7.5-minute Quadrangle (USGS 1993)
contour interval is 3 m (10 ft)



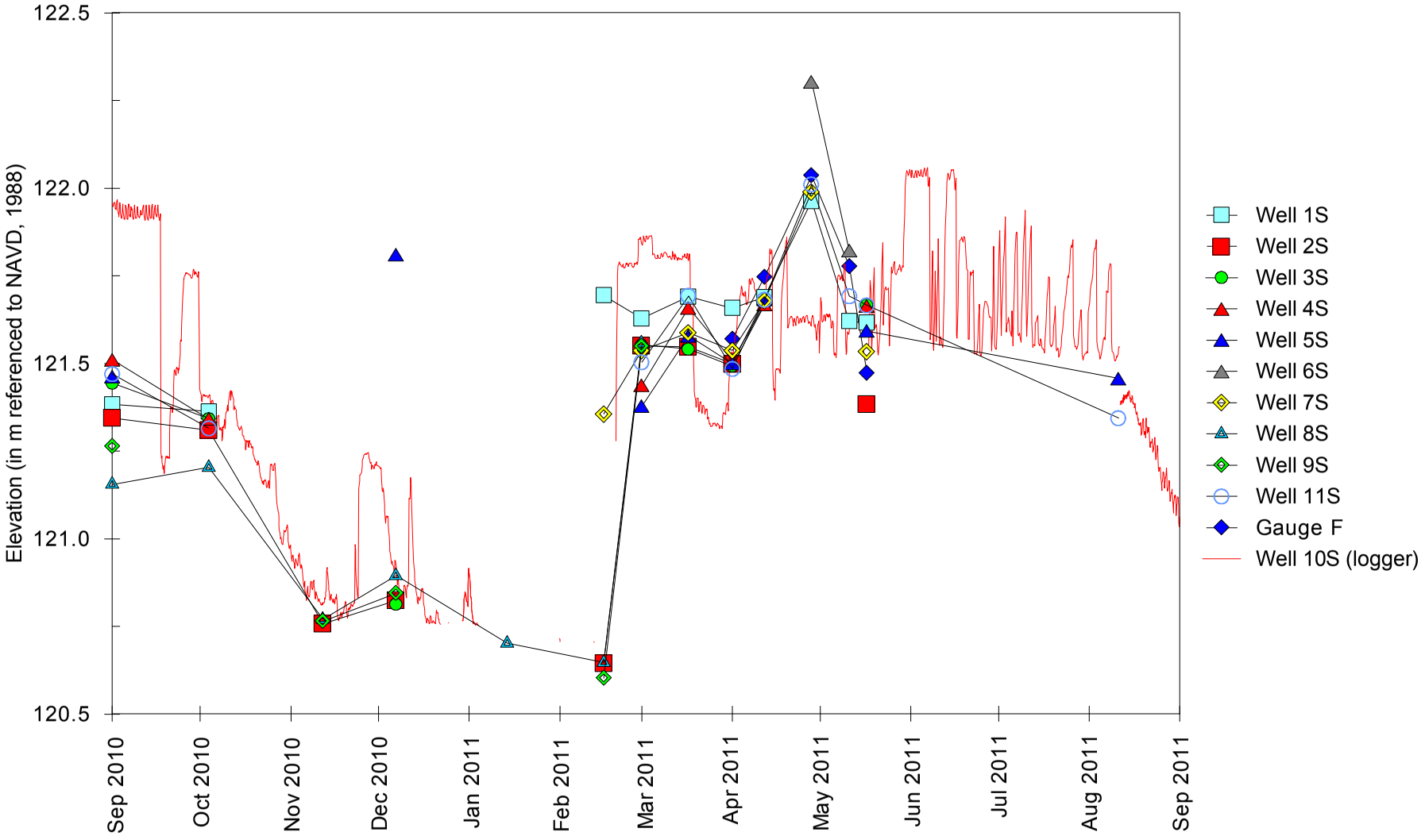
# Former Tiernan Property
# Potential Wetland Mitigation Site
# (FAP 14)
## Estimated Areal Extent of 2011 Wetland Hydrology
**September 1, 2010 through August 31, 2011**

Map based on USGS digital orthophotograph, Cahokia SW quarter quadrangle produced from 04/02/98 aerial photography (ISGS 2000)



# Former Tiernan Property Potential Wetland Mitigation Site
## September 1, 2010 through August 31, 2011

### Water-Level Elevations in S Monitoring Wells and at Surface-Water Gauges



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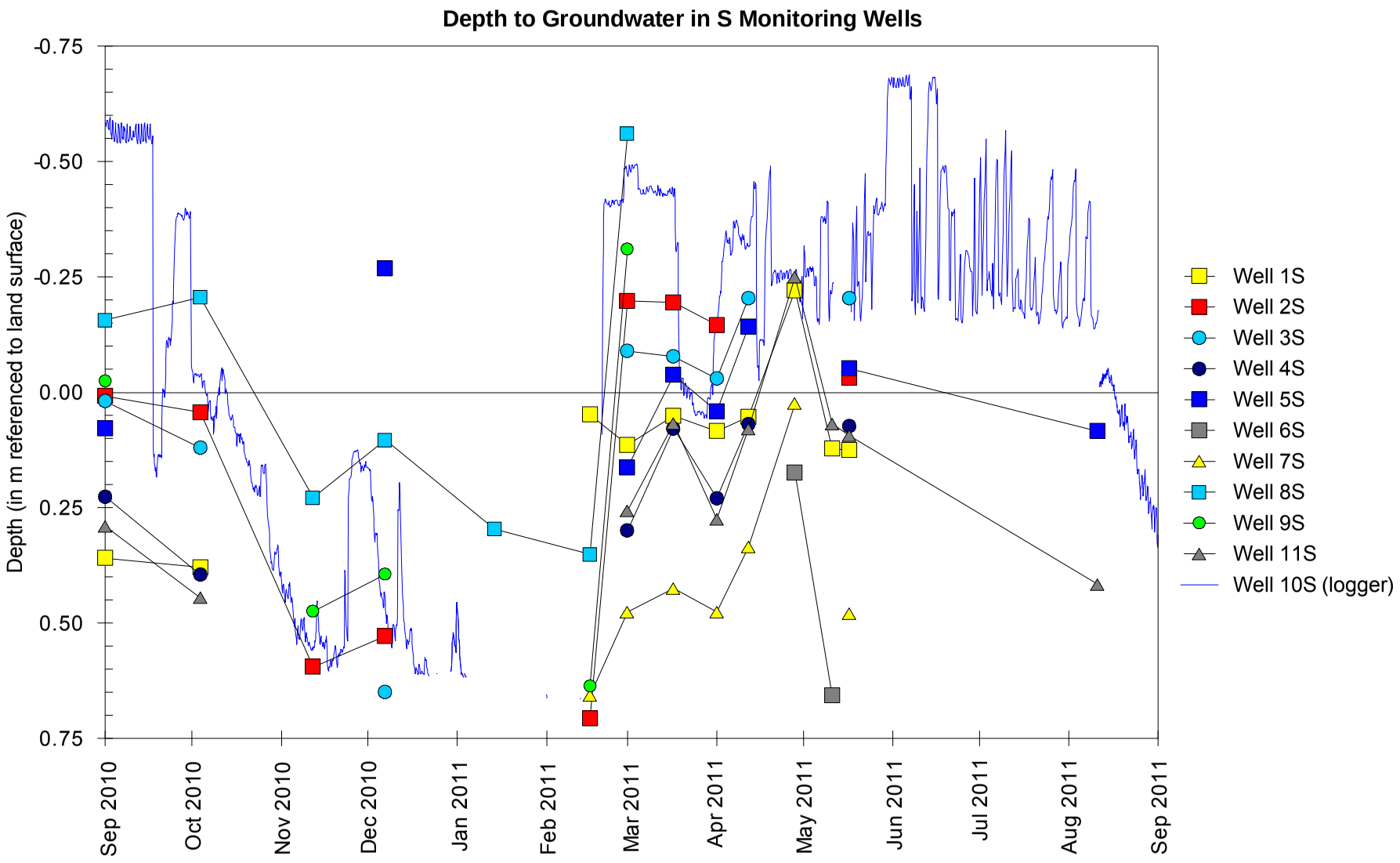

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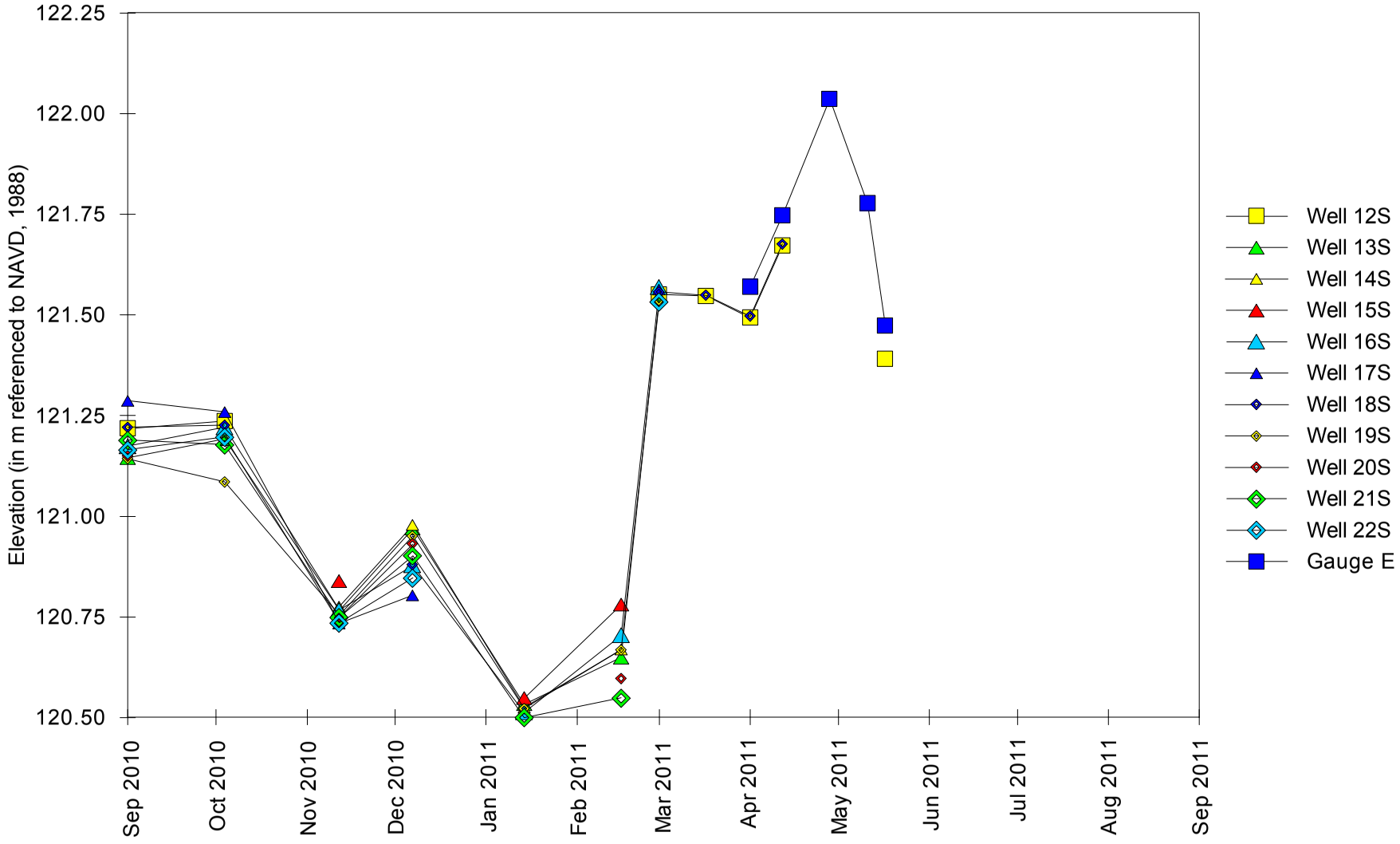

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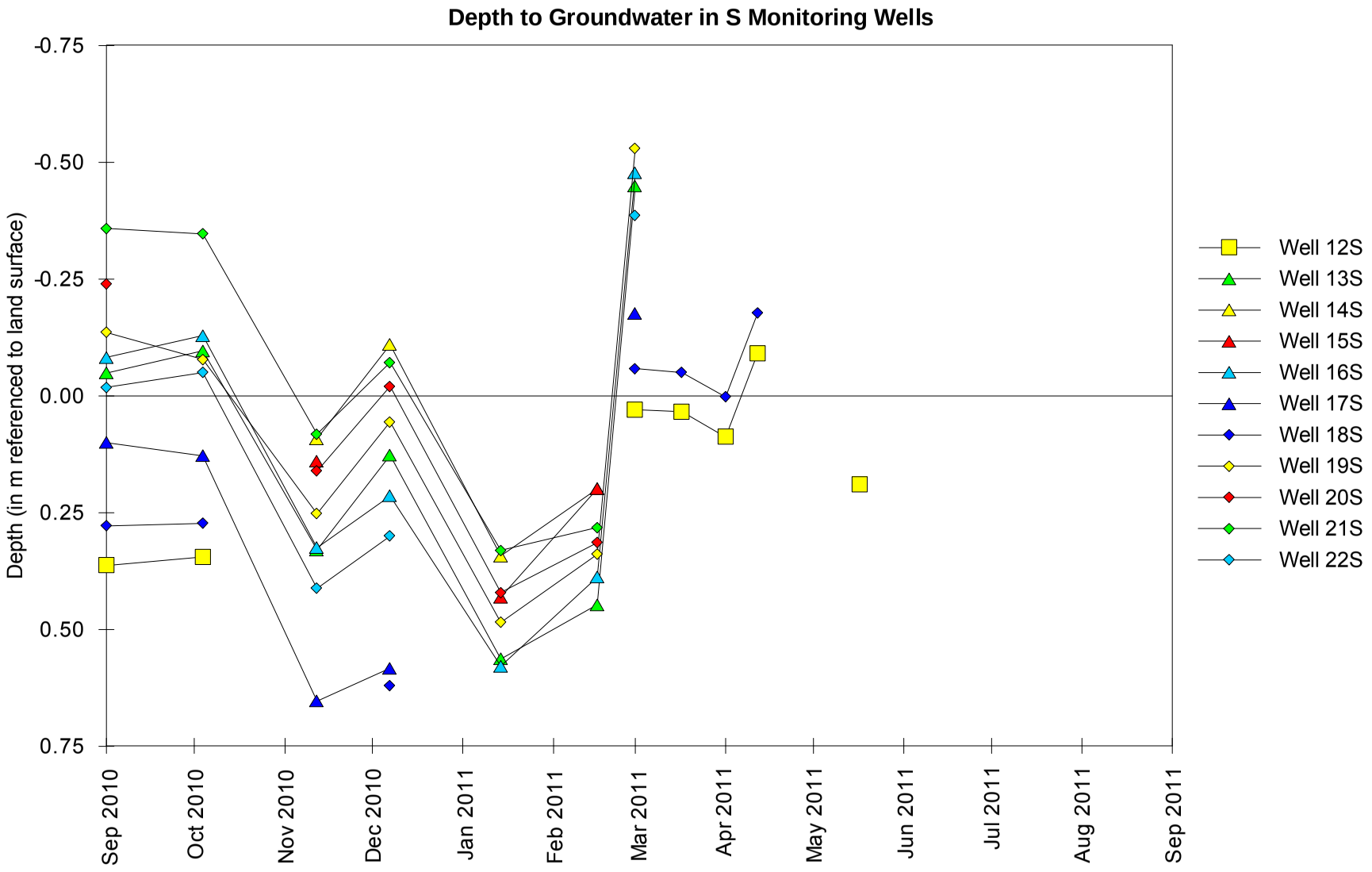

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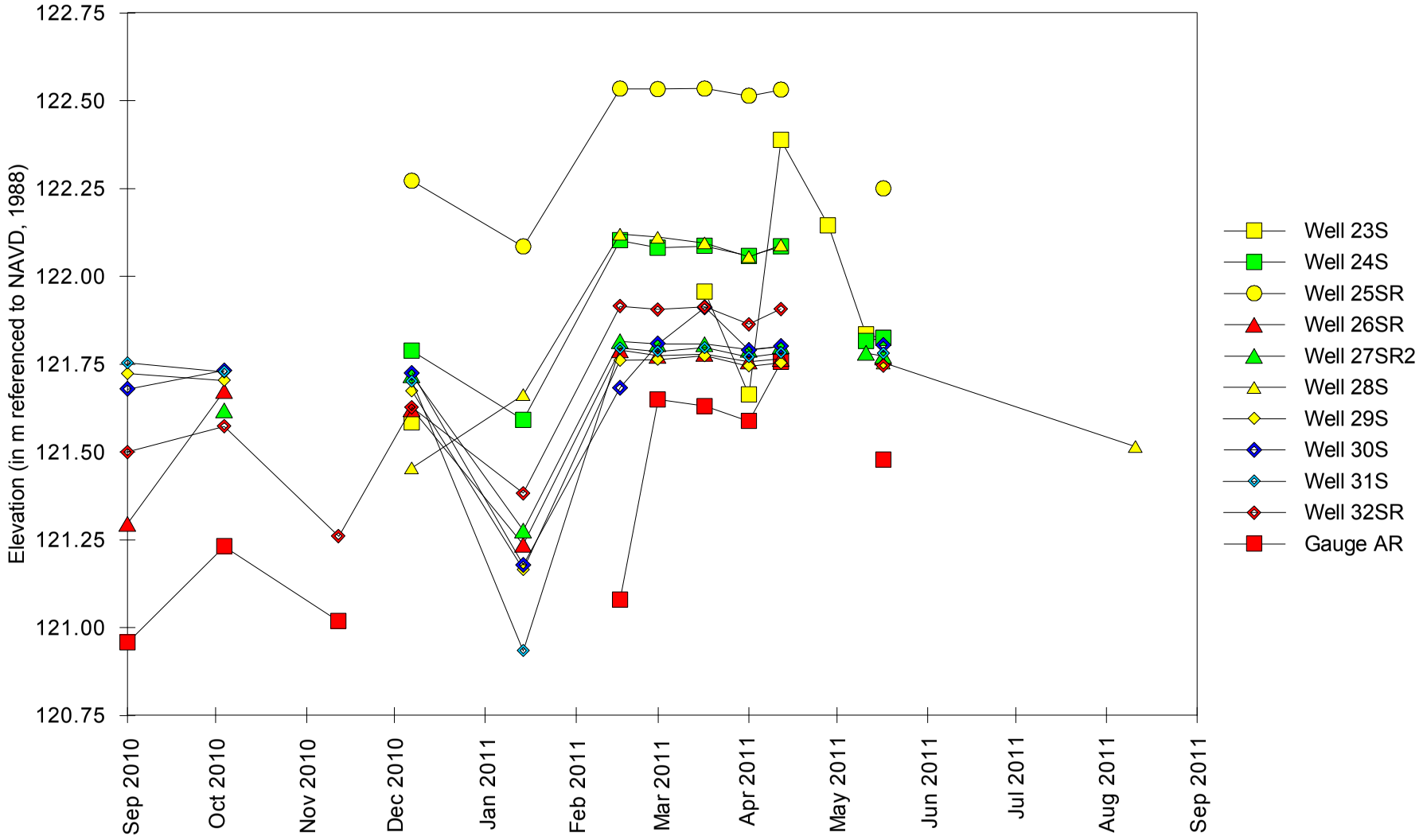

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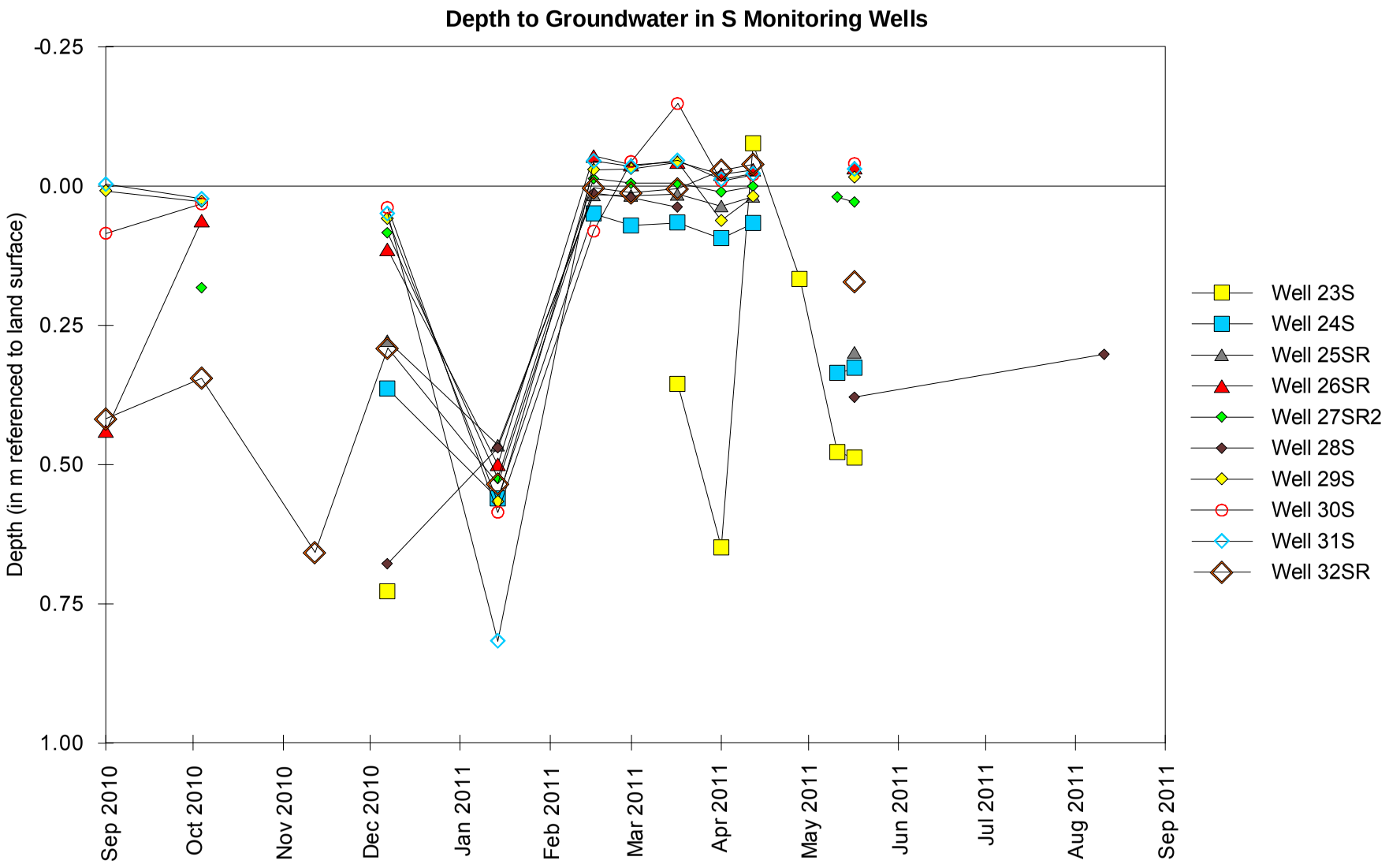
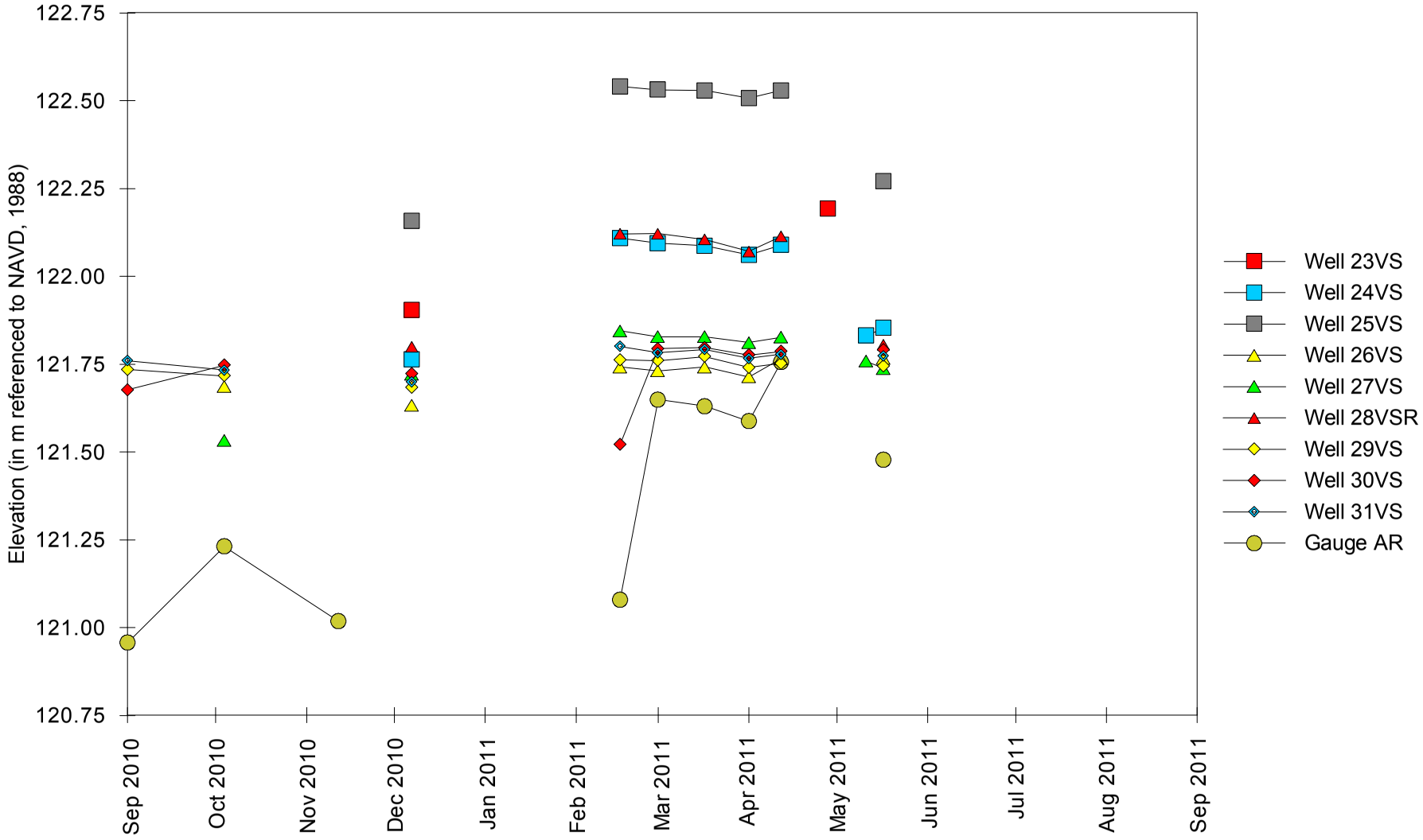


# Former Tiernan Property Potential Wetland Mitigation Site
## September 1, 2010 through August 31, 2011

### Water-Level Elevations in VS Monitoring Wells and at Surface-Water Gauges



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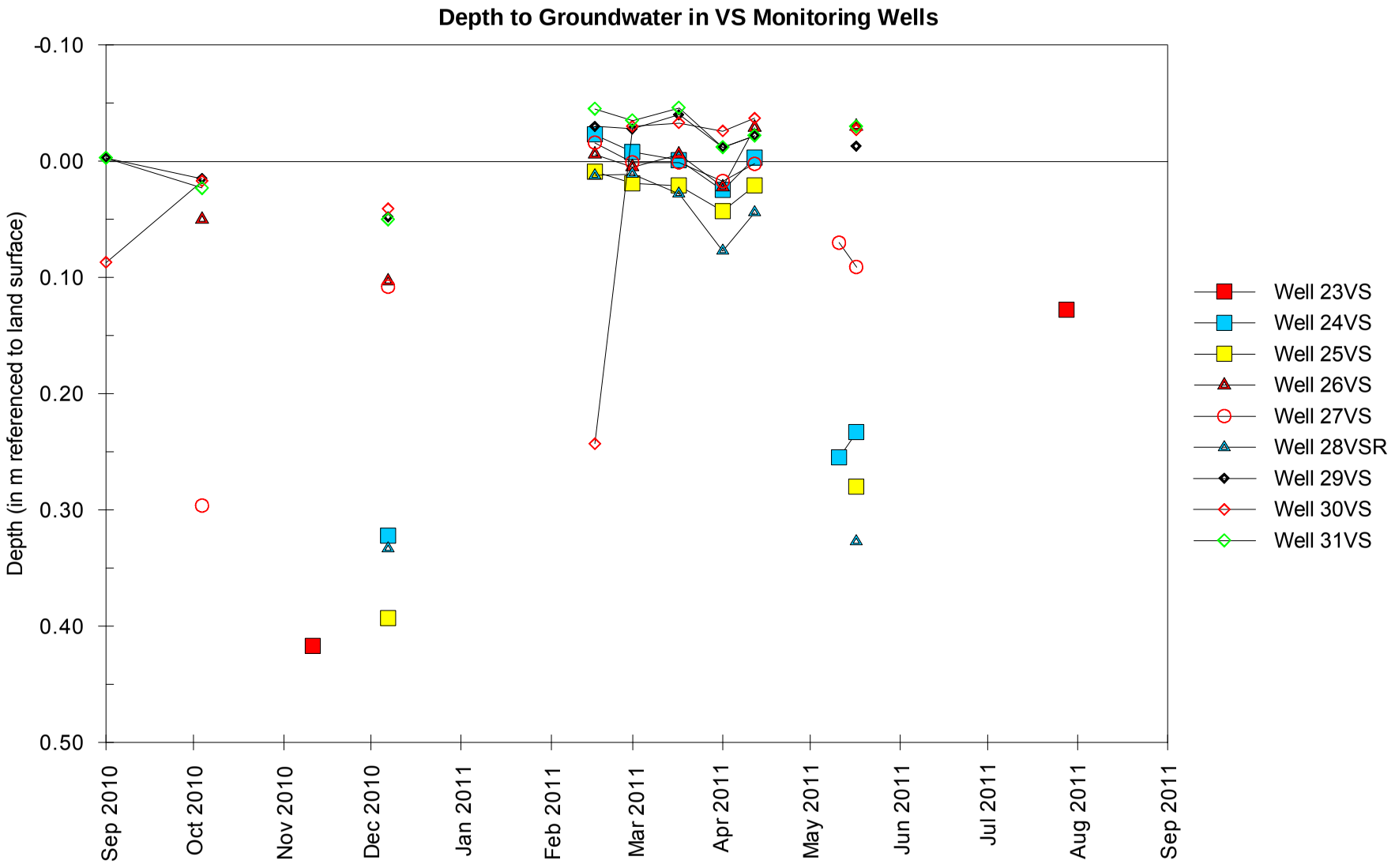

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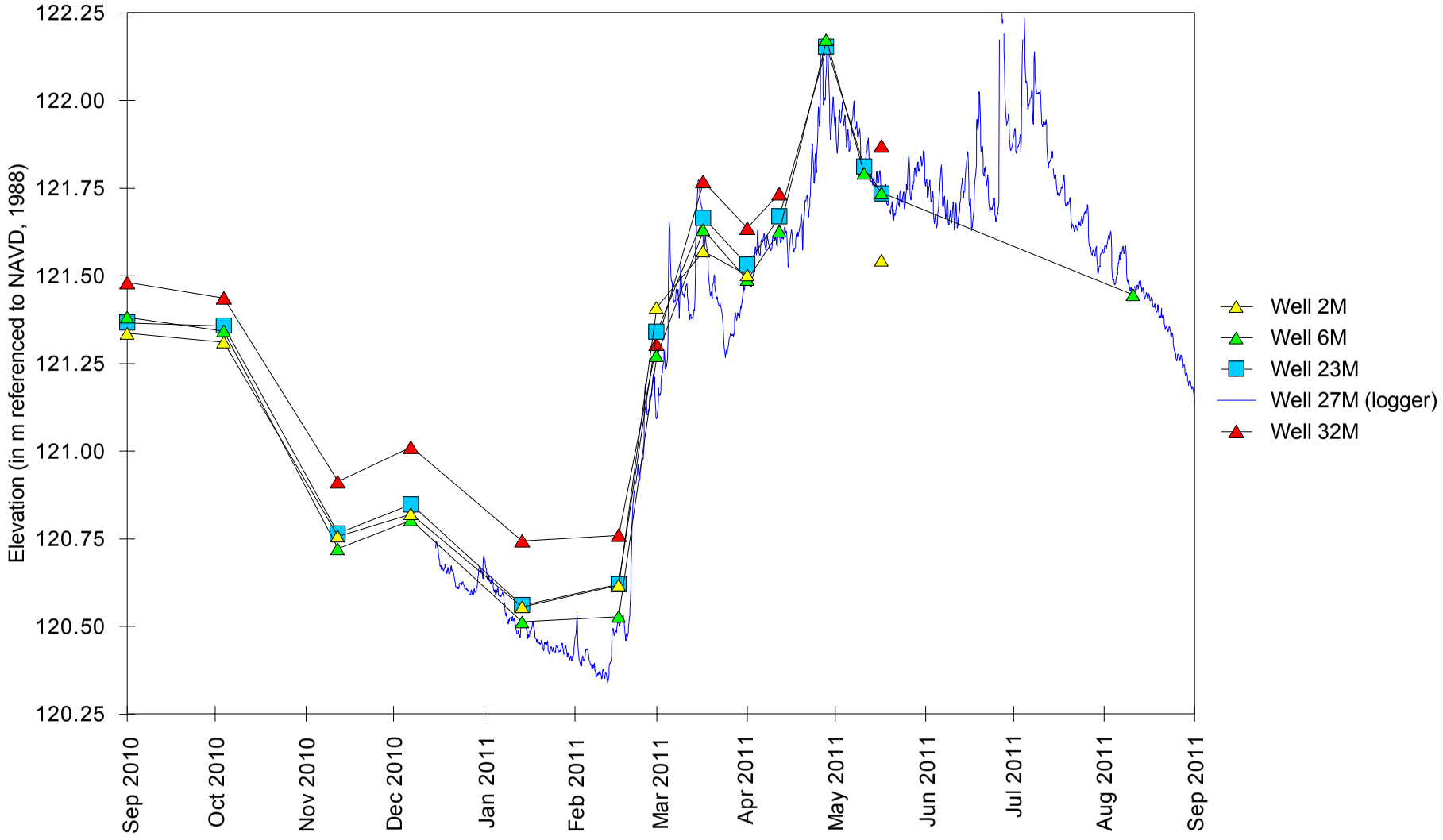
## September 1, 2010 through August 31, 2011

### Water-Level Elevations in M Monitoring Wells



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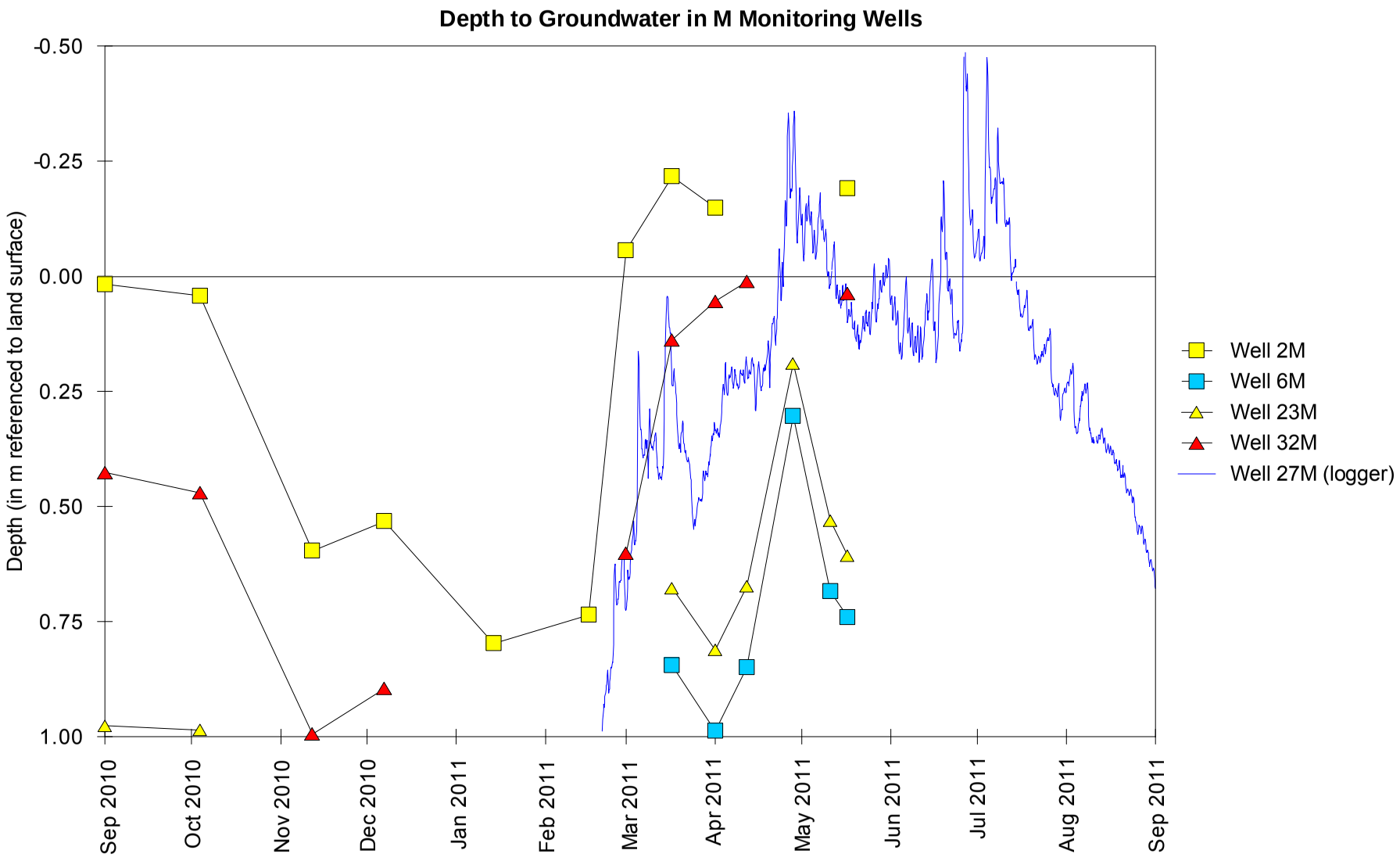

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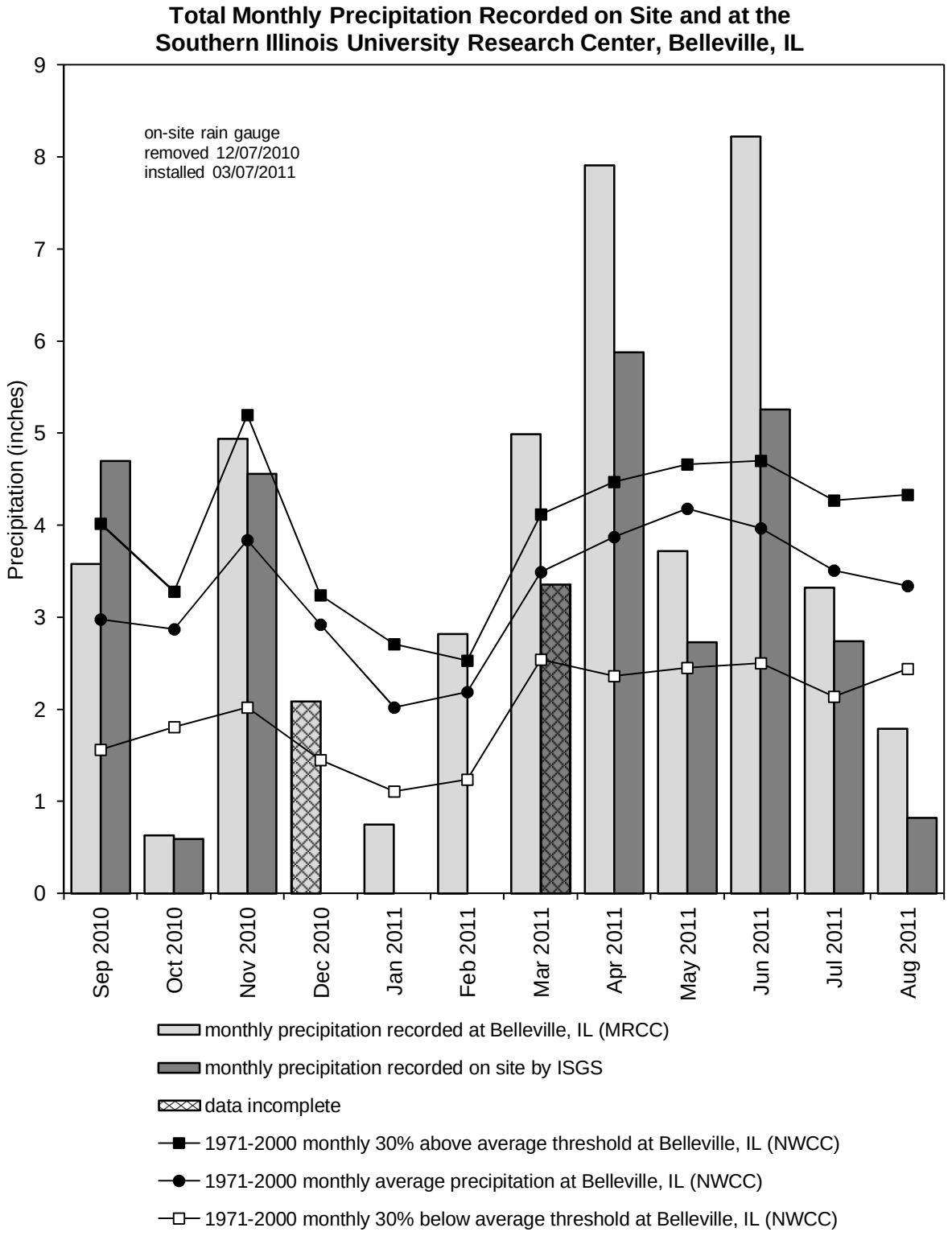
# Potential Wetland Mitigation Site
## September 2010 through August 2011




Graph last updated 10/31/2011