

**FREEPORT BYPASS WEST
WETLAND COMPENSATION SITE 6W**

ISGS #72

FAP 301

Sequence #10487

Stephenson County, near Freeport, Illinois

Primary Project Manager: Eric T. Plankell

Secondary Project Manager: not assigned

SITE HISTORY

- Fall 2003: ISGS was tasked by IDOT to perform a Level II hydrogeologic assessment of the potential for wetland mitigation at this site.
- December 2003: ISGS monitoring network was installed.
- Summer 2006: Tree planting was completed and a berm was installed at the western end of the central drainage ditch.
- February 2007: ISGS submitted a Level II hydrogeologic characterization report to IDOT (ISGS Open-File Series 2007-01).

WETLAND HYDROLOGY CALCULATION FOR 2009

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2009 growing season is 5.0 ha (12.5 ac), and the total area that satisfied wetland hydrology criteria for greater than 12.5% of the 2009 growing season is 3.0 ha (7.4 ac) out of a total site area of 9.6 ha (23.6 ac). Using new guidance proposed by the U.S. Army Corps of Engineers (2008), we estimate that 7.0 ha (17.2 ac) also satisfied wetland hydrology criteria for 14 or more consecutive days during the growing season. These estimates are based on the following factors:

- According to the MRCC, the median date that the growing season begins in Freeport, Illinois is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days. According to methods outlined in the Midwest Regional Supplement (U.S. Army Corps of Engineers 2008), we estimate that March 19 was the starting date of the 2009 growing season based on vegetation growth and development and soil temperature observed at the wetland compensation site.
- Total precipitation at the nearby Wastewater Treatment Plant weather station in Freeport, Illinois was approximately 128% of normal for the monitoring period of September 2008 through August 2009. Precipitation at this station was below normal in November and December 2008, and in August 2009. Precipitation amounts were at or above normal for the remaining months of the 2008-2009 monitoring period. A flooding event along the Pecatonica River that peaked on April 29 resulted in the observed areas that satisfied wetland hydrology criteria for the 2008-2009 monitoring period.
- In 2009, water levels measured in all soil-zone (S and VS) wells except 4S, 5S, and 6S satisfied the wetland hydrology criteria for greater than 5% of the growing season. All wells, except 4S, satisfied the wetland hydrology criteria for 14 or more consecutive days of the growing season. Additionally, water levels measured in wells 2S, 7S, 9S,

10S, and 15S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- Water-level records for the In-Situ pressure transducer at Gauge CR indicated on-site inundation at or below approximately 230.86 m (757.41 ft) for greater than 5% of the growing season, inundation at or below approximately 230.91 m (757.58 ft) for 14 or more consecutive days of the growing season, and inundation at or below approximately 230.78 m (757.15 ft) for greater than 12.5% of the growing season.

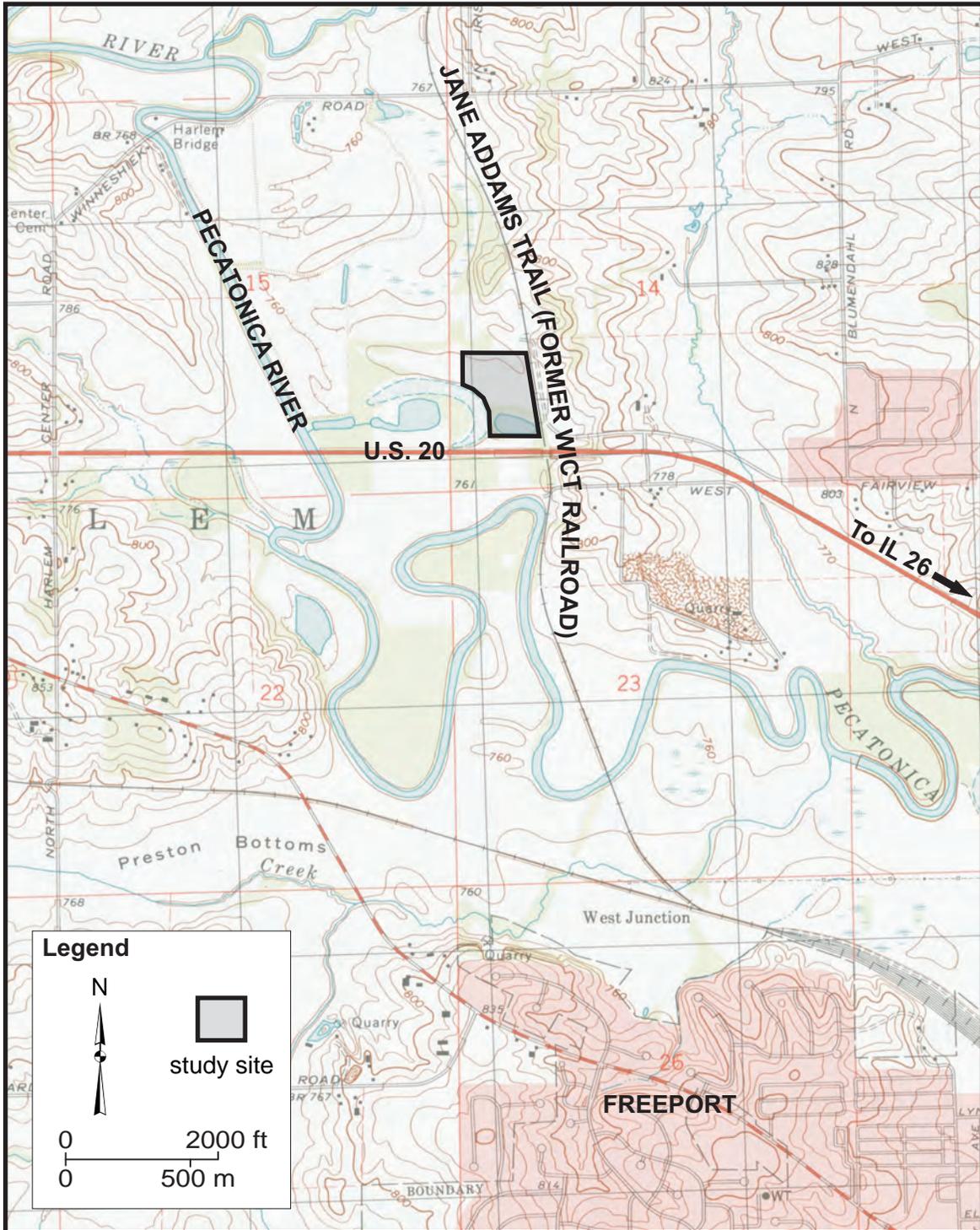
PLANNED FUTURE ACTIVITIES

- Monitoring will continue at the site until no longer required by IDOT.

Freeport Bypass West Wetland Compensation Site 6W (FAS 301)

General Study Area and Vicinity

from the USGS Topographic Series, Freeport West, IL 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet

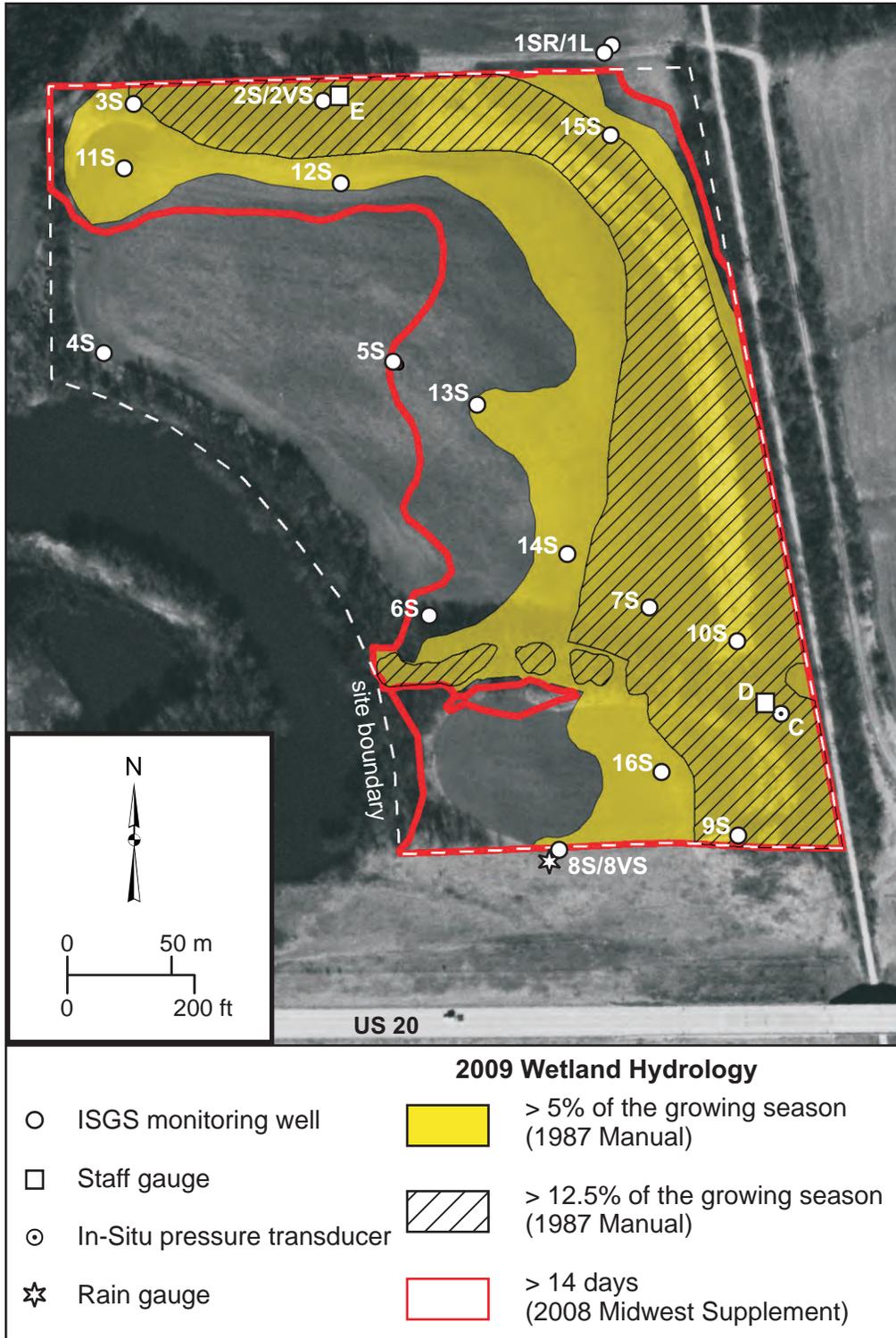


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Estimated Areal Extent of 2009 Wetland Hydrology

September 1, 2008 through August 31, 2009

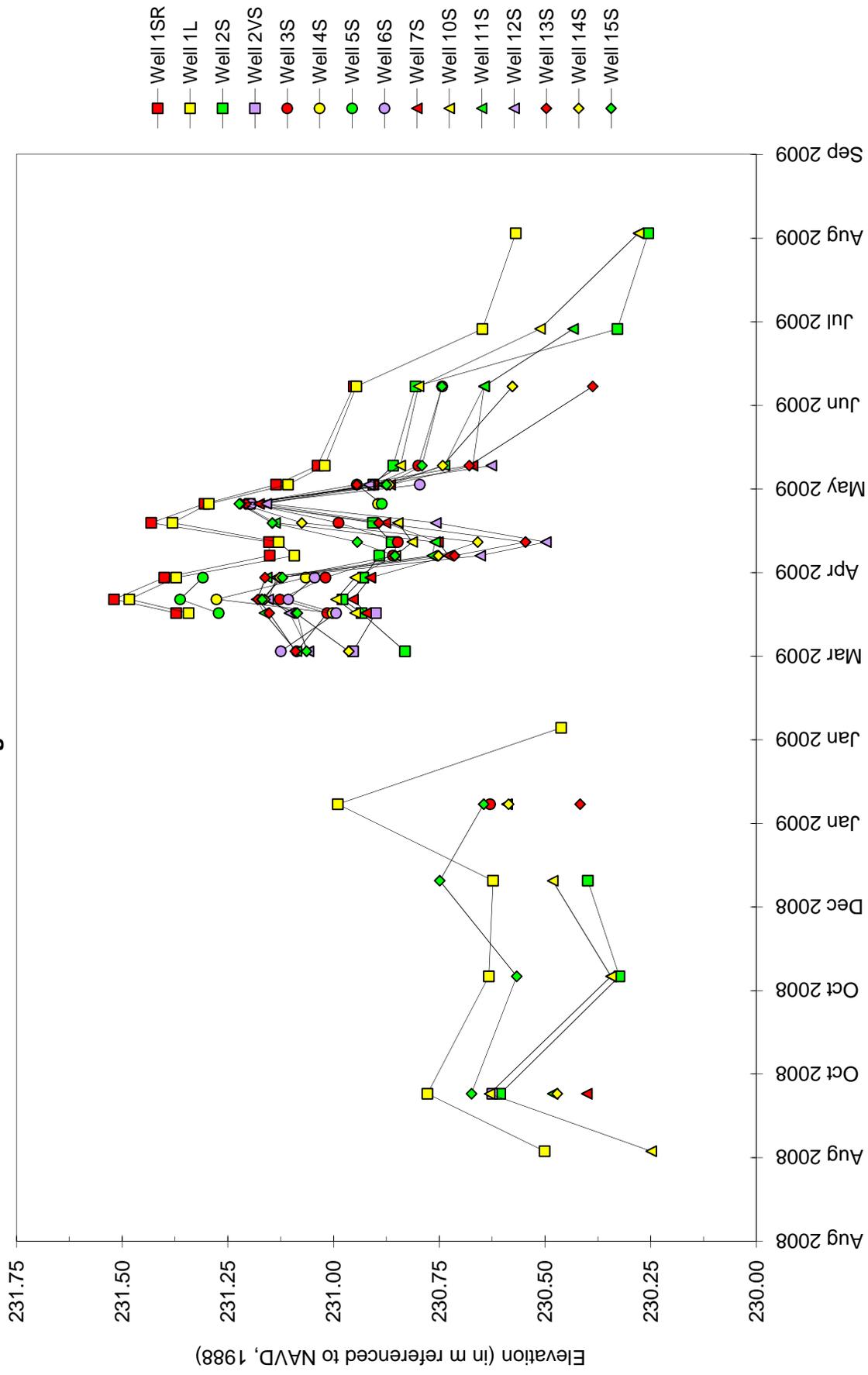
Map based on USGS digital orthophotograph, Freeport West, NE quarter quadrangle (ISGS 2005)



Freeport Bypass West Wetland Compensation Site 6W

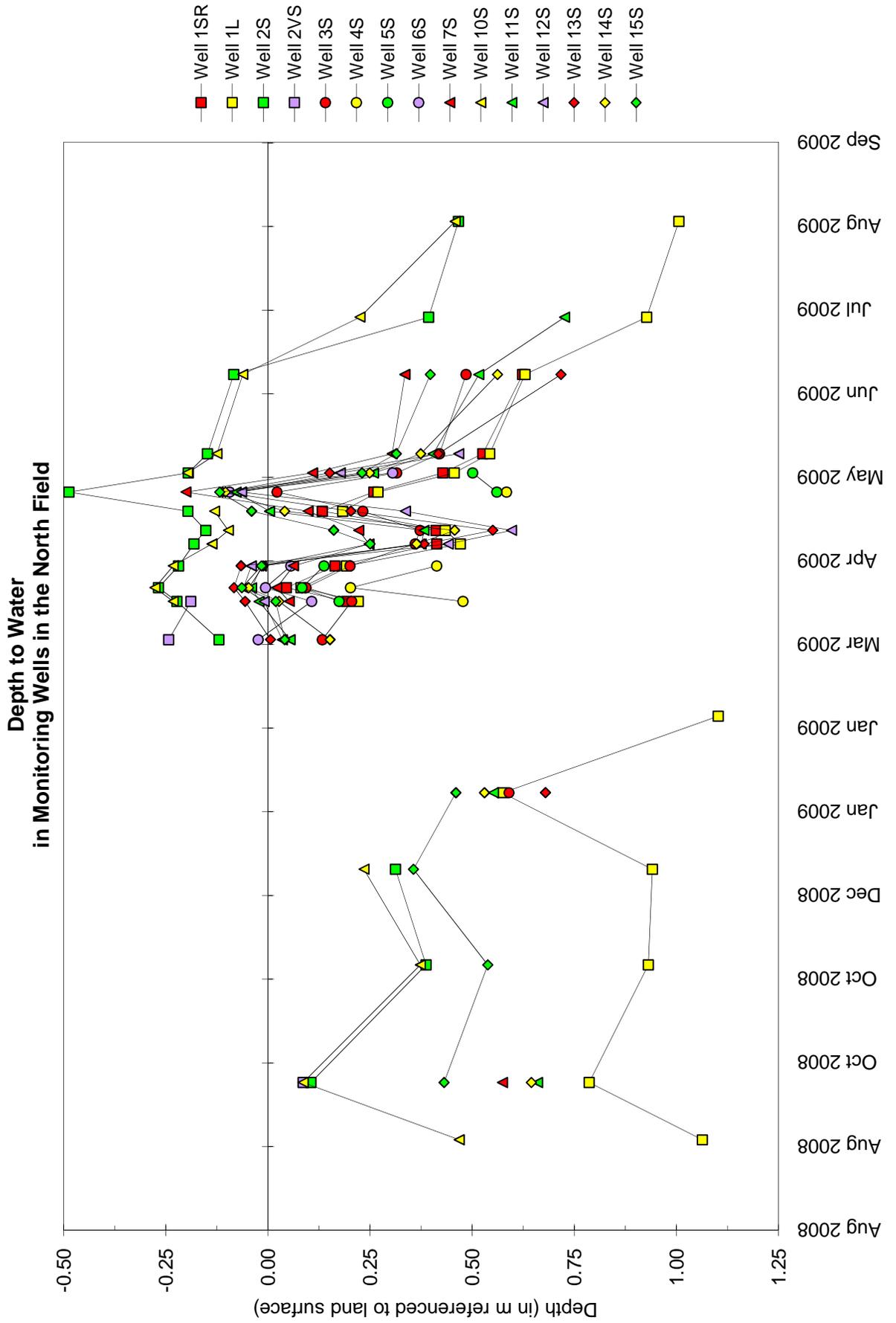
September 1, 2008 through August 31, 2009

Water-Level Elevations
in Monitoring Wells in the North Field



Freeport Bypass West Wetland Compensation Site 6W

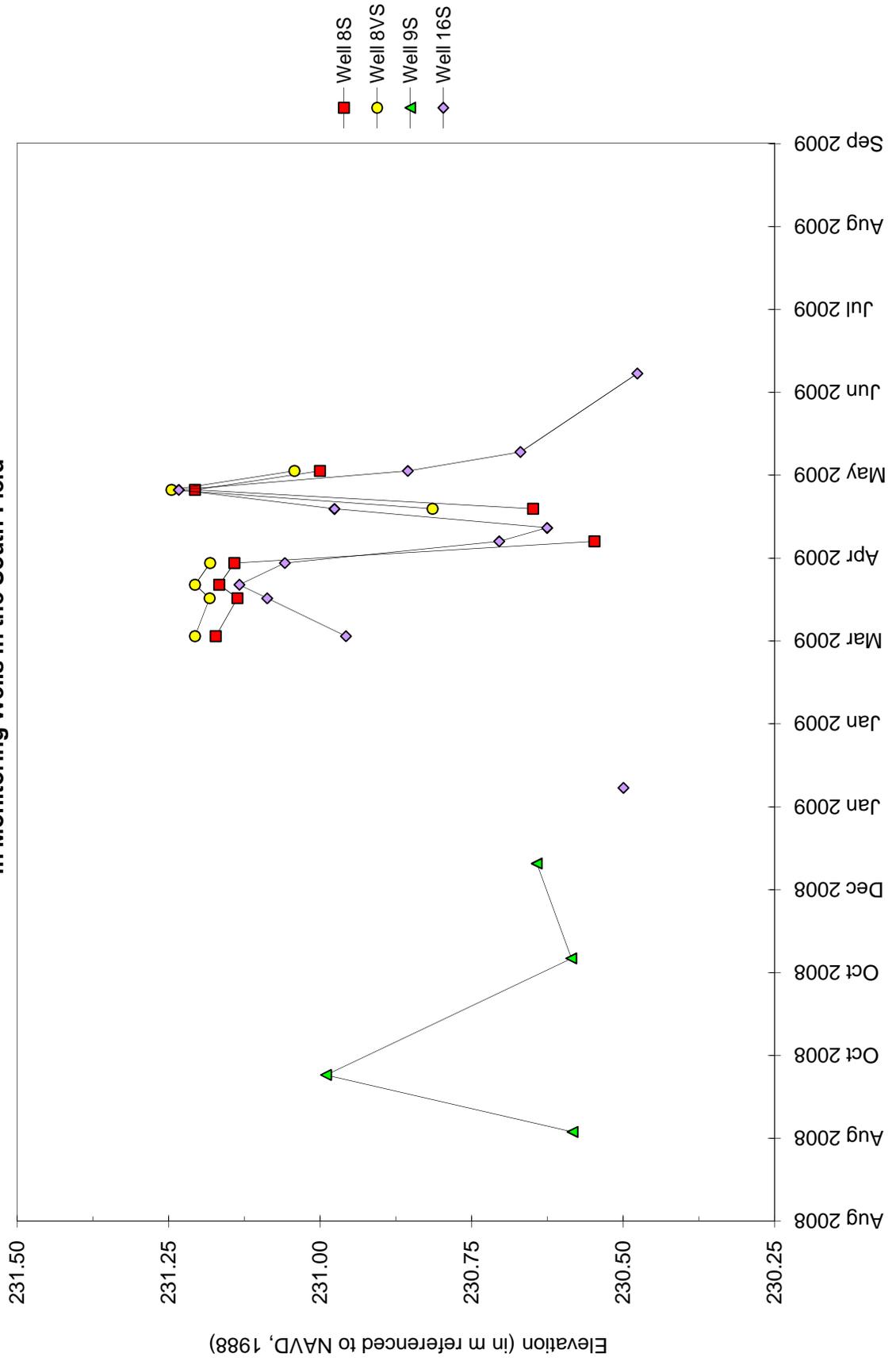
September 1, 2008 through August 31, 2009



Freeport Bypass West Wetland Compensation Site 6W

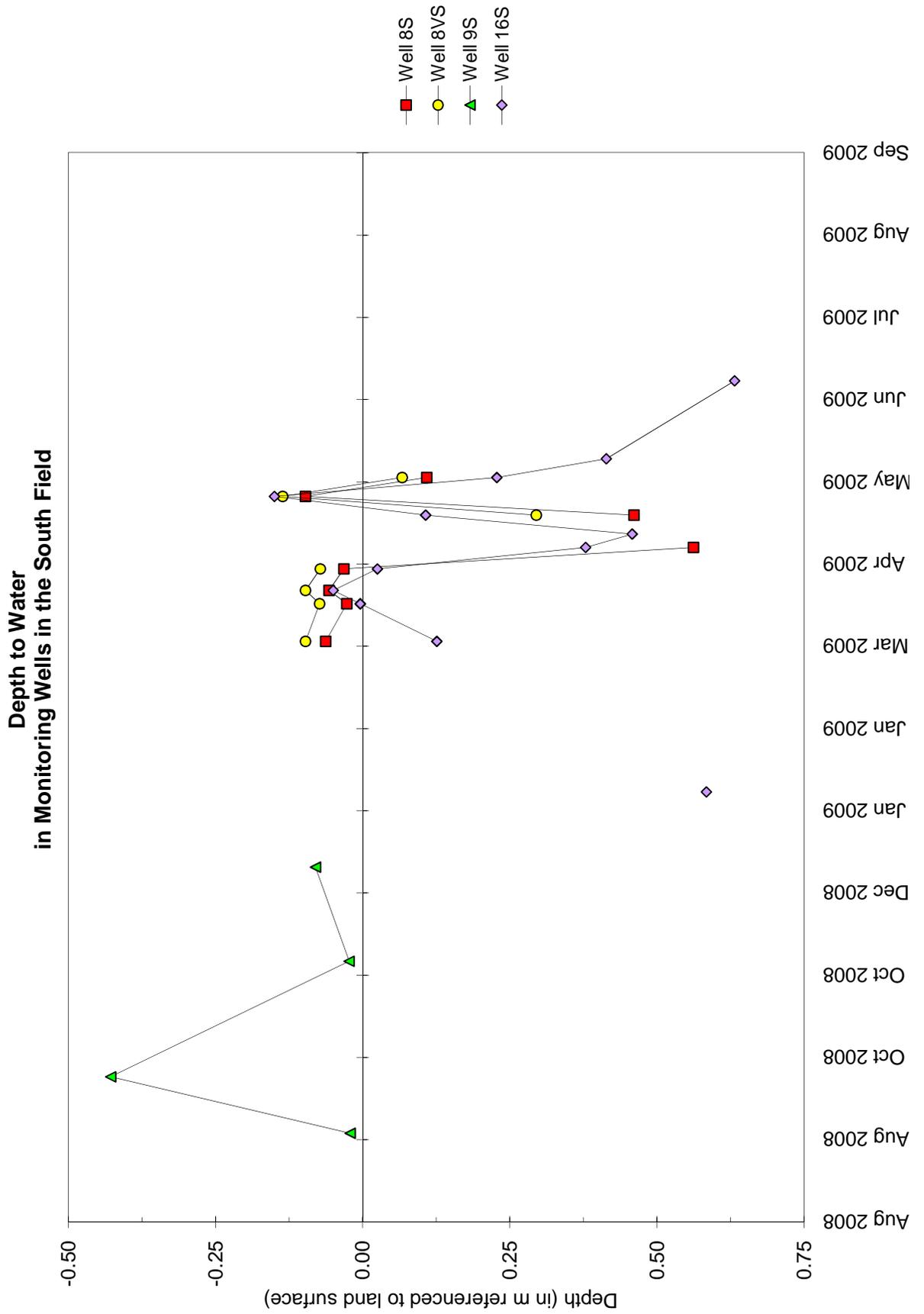
September 1, 2008 through August 31, 2009

Water-Level Elevations
in Monitoring Wells in the South Field



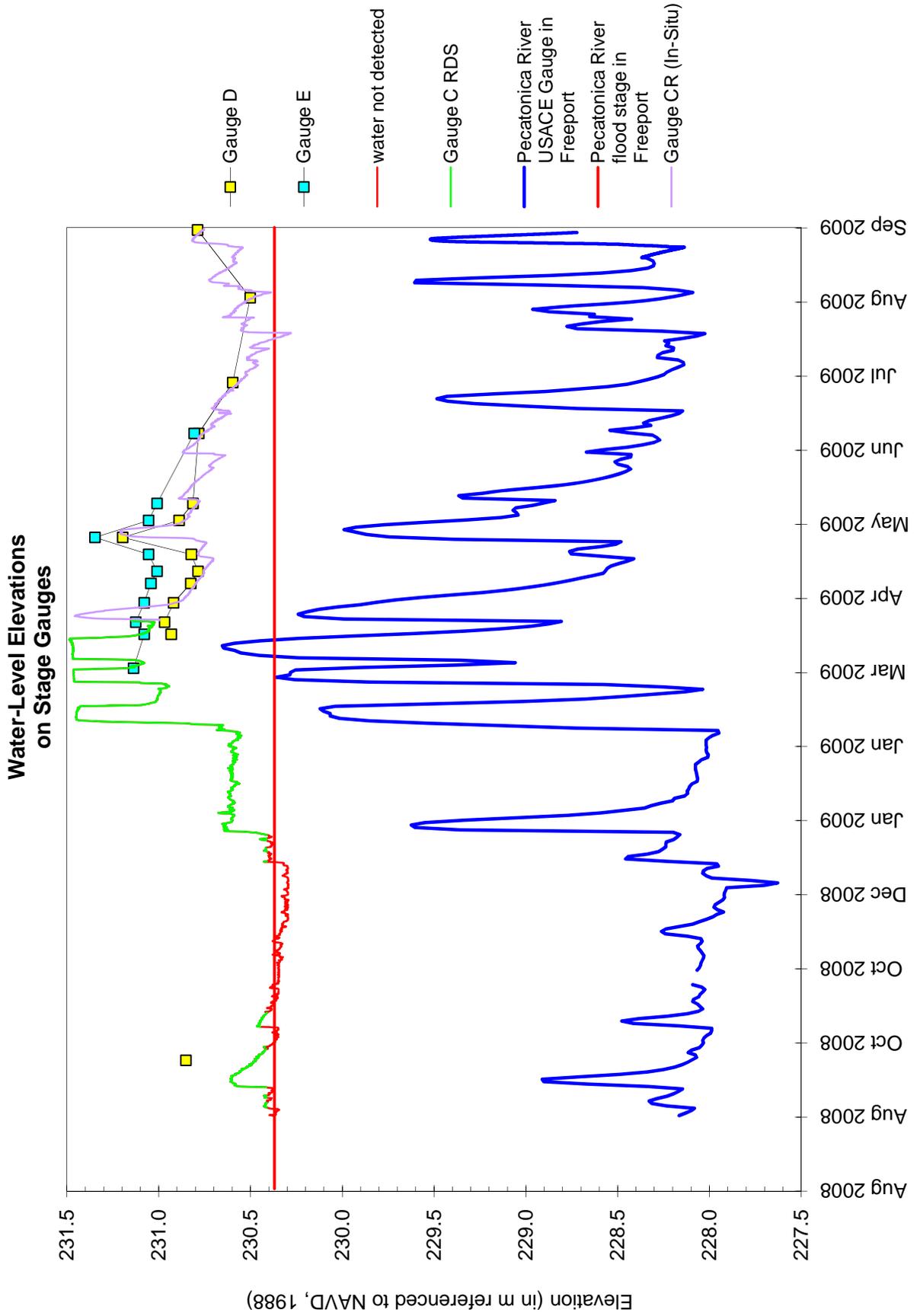
Freeport Bypass West Wetland Compensation Site 6W

September 1, 2008 through August 31, 2009



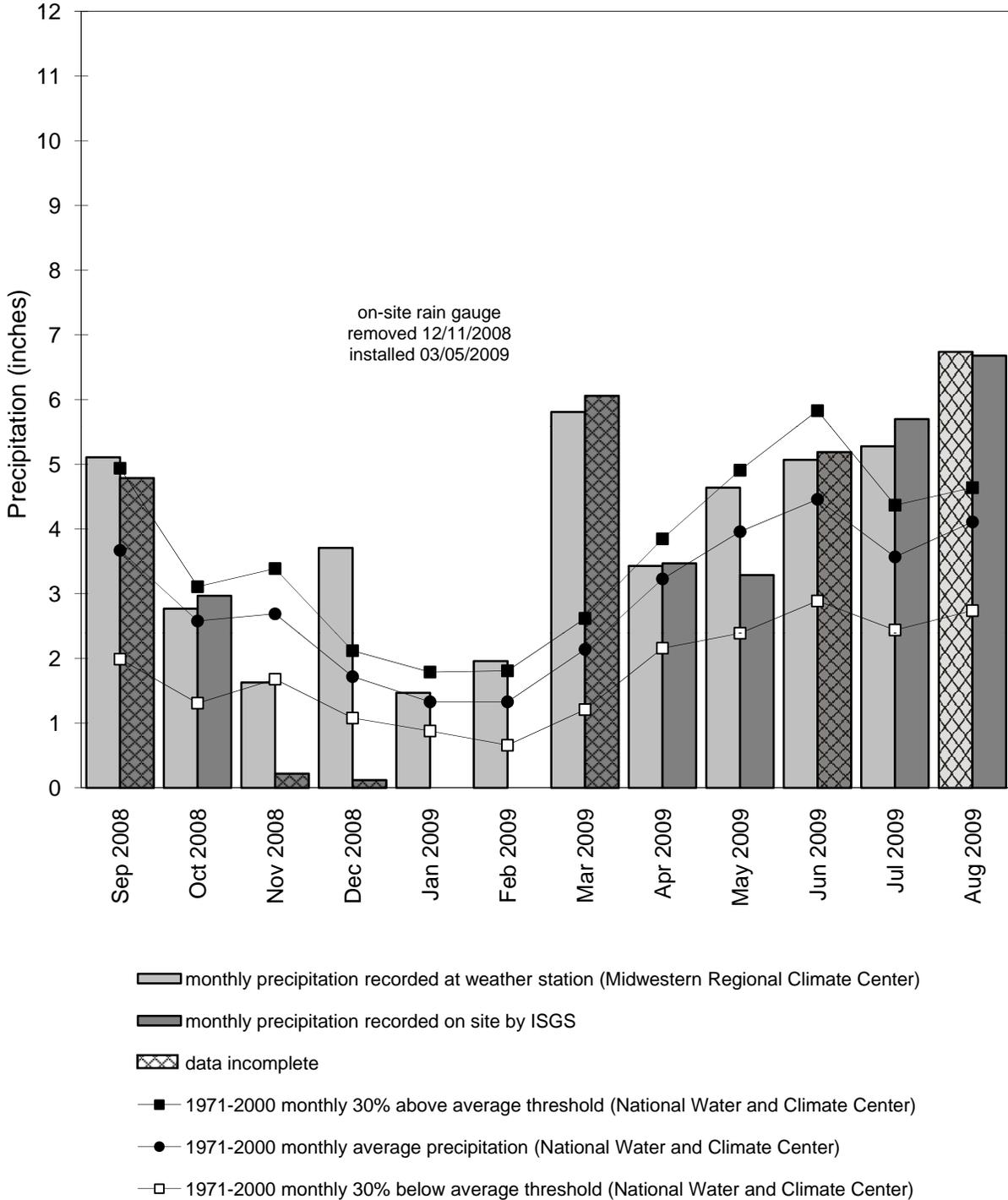
Freeport Bypass West Wetland Compensation Site 6W

September 1, 2008 through August 31, 2009



Freeport Bypass West Wetland Compensation Site 6W September 2008 through August 2009

**Total Monthly Precipitation Recorded On Site and at the
Freeport Wastewater Treatment Plant Weather Station, Freeport, IL**



Graph last updated September 14, 2009