Usalco

CASE STUDY

DelPAC® 2020: Proven Performance for High-Variability Source Water

FROM HUMBLE BEGINNINGS

Tiffin, Ohio, is a scenic city in Seneca County, recognized for its strong educational institutions and its designation as a Tree City USA by the National Arbor Day Foundation. The city's water treatment plant, located along the Sandusky River, has been in operation since 1878. At the time of this case, the plant was owned and operated by Aqua America.

The Sandusky River has always been a challenging source due to its highly variable turbidity. Tiled farmland and local topography cause rapid runoff, making turbidity levels extremely "flashy." A typical day could start with readings of 5–10 NTU and spike to 1,000 NTU by afternoon. Even today, raw water turbidities near 2,000 NTU occur about 25% of the time.

In 1995–1996, the plant struggled to meet Ohio's water quality standard for effluent turbidity—0.300 NTU. Lead operator James Welty recalls testing numerous aluminum and iron-based coagulants without success. These metal salts couldn't react quickly enough to handle sudden turbidity swings, especially in cold water. The result: overfeeding coagulants, constant pH adjustments, and ongoing compliance concerns.

Delta Chemical (acquired by Usalco in 2011) approached Mr. Welty to test a new polyaluminum chloride coagulant—DelPAC 2020. After successful bench tests and a plant trial, DelPAC 2020 became the coagulant of choice. Welty remembers the turning point clearly:

"DelPAC gave us the quick reaction time and flexibility we needed. With alum, we struggled to hit 7–10 NTU in the basins and 1.0 NTU in the effluent. Today, we're consistently below 1.0 NTU and 0.04 NTU, using 66% less coagulant. I can't say enough about how well it's performed."

Tiffin's commitment to excellence continues, and Usalco is proud to support that mission. Manufactured using a patented process, DelPAC 2020 became the foundation of Usalco's extensive line of polyaluminum chloride coagulants. Today, DelPAC products are trusted in more than 1,000 water treatment applications across the U.S.