

# Explanation of phosphate dosing at the Verona Water Treatment Plant

The table below defines the day between Jan. 1, 2020 and June 30, 2020 that the city's water treatment facility experienced excursions from the defined range of 0.33 mg/l to 0.67 mg/l. These are represented on the rows labeled as PT, for Plant Tap. There are two additional excursions that were detected in our Water Quality Parameters that are sampled in the distribution system on a quarterly basis.

Samples for the analyses of phosphate are done three time each day at the plant tap. The results from those three samples are then averaged to the daily amount that we log. Our investigation determined that on June 17 and June 20 we failed to average the three samples, and entered the total instead. With the math done correctly, the readings for those two days would be 0.41 mg/l and 0.42 mg/l respectively. The dates are highlighted in red in the table below.

Milligrams per liter (mg/l) is equal to parts per million (ppm). With this understanding, we encourage you to view the "How to Visualize Parts per Million" video available on the city's water and waste water web page ([battlecreekmi.gov/publicworks](http://battlecreekmi.gov/publicworks)).

We share this to give our customers increased confidence in knowing that while we were below our intended dosing rate, the excursions were minimal and do not create a dramatic concern with our drinking water. Furthermore, we are currently progressing through this year's lead and copper sampling and testing. Results from this effort show that there was no affect to our lead and copper levels caused by these excursions, and we continue to get low results in our lead and copper sampling.

Phosphate Excursions for July 2019 through June 2020			
PT = Plant Tap (3x/day)	Source	Phosphate Level	Amount out of Range
6/4/2019	PT	0.32	0.01
6/17/2019	PT	1.22	-0.89
11/1/2019	PT	0.31	0.02
11/12/2019	PT	0.32	0.01
3/13/2020	PT	0.29	0.04
3/14/2020	PT	0.31	0.02
3/15/2020	PT	0.31	0.02
3/17/2020	PT	0.30	0.03
3/18/2020	PT	0.32	0.01
3/19/2020	PT	0.30	0.03
3/20/2020	PT	0.28	0.05
3/21/2020	PT	0.22	0.11
3/22/2020	PT	0.26	0.07
3/30/2020	PT	0.32	0.01
3/31/2020	PT	0.32	0.01
4/10/2020	PT	0.31	0.02
4/7/2020	WQP	0.31	0.02
6/20/2020	PT	1.25	-0.92
6/30/2020	WQP	0.30	0.03