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SUCCESS STORIES

# mini LoP Improved Performance

**ChemScan, Inc. ChemScan Mini LoP improves performance at a food processing wastewater facility**
**By Scott Kahle**

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# ChemScan Mini LoP improves performance at a food processing wastewater facility

By Scott Kahle

Meeting very stringent total phosphorous requirements is a challenge for a treatment plant that is receiving wastewater from a dairy process. With a total phosphorous limit less than 100 ppb, a reliable, precise, highly accurate ortho-phosphorous measurement is required to monitor and control the tertiary phosphorous removal process. Small town plants in the upper Midwest commonly encounter this problem.

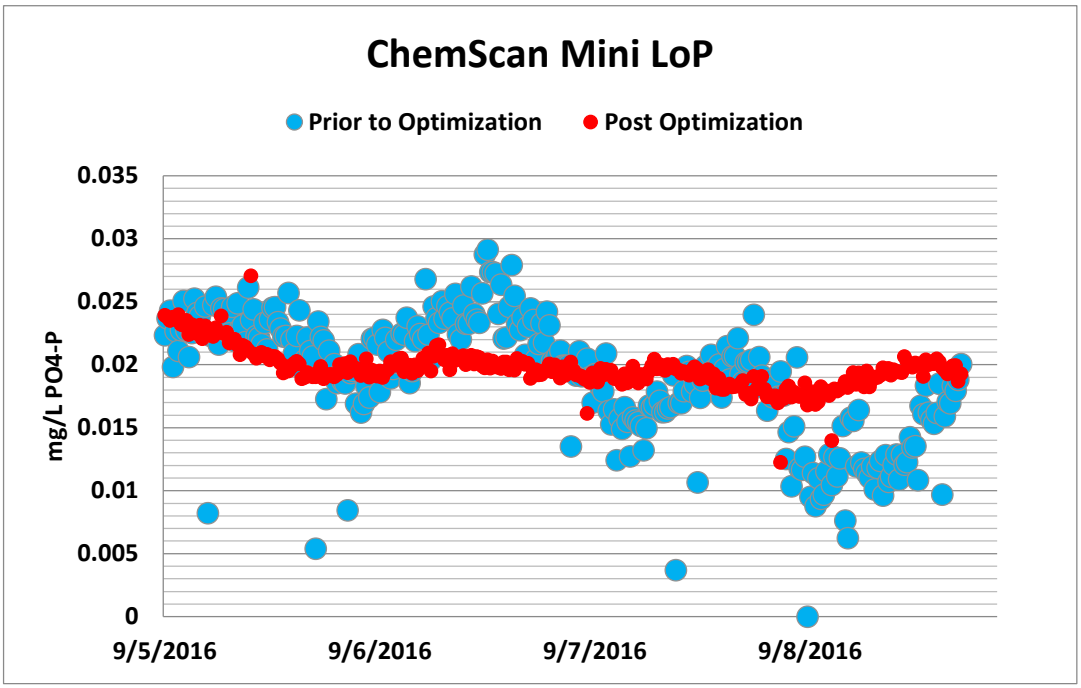
The existing analyzer at one such plant, provided by the filter manufacturer, did not achieve the accuracy or reliability required for optimizing the plant operation. The plant tried replacing the original ortho-phosphate analyzer with a recently introduced product from the same manufacturer. The analyzer provided improved precision, but the reliability was still an issue. The newer product has many small sample paths and tubing that plugs easily. This lead to a search for a product that would be precise, accurate and provide the reliably required for this demanding application.

Based on ChemScan's reputation for being very reliable and only requiring simple maintenance, the ChemScan mini LoP ortho-Phosphate analyzer was chosen. The analyzer has been designed for at-process installation in municipal or industrial wastewater treatment plants which can be serviced by on-site personnel without a required factory service contract.

Following a few months of operation of the ChemScan mini LoP the plant was happy to observe that the analyzer was relatively maintenance free due to auto-cleaning and the large orifice sample path. Although an adjustment to the analyzer was made to better match the on-site lab data, however the analyzer was still not providing the precision (reading to reading stability the plant was hoping for. After evaluating the initial data from the site, a project was kicked off to identify sources of reading variability to provide an analyzer configuration that minimizes these variations. An equivalent system was configured in the ChemScan, Inc. lab where controlled tests could be done. Following a few weeks of testing and optimization, a modified measurement method with improved functional operation was installed on the plants mini LoP as well.

The graph shows the analyzer's concentration data over a 3 day period prior to the optimization and a 3 day period after the optimization.

The standard deviation has been calculated for both data sets indicating a 3. 5x reduction in the analyzer variability.




The ChemScan mini LoP analyzer's simplified design makes it easy to operate, maintain and adjust. Through configuration changes, the analyzer performance has been optimized to reduce the reading variability significantly.

ChemScan, Inc. is constantly testing and improving our analyzers. The mini platform has been designed for easy configuration and method upgrades. Customers are offered upgrades as new developments become available.

Since 1995 ChemScan, Inc. has specialized in the manufacture of automatic chemical analysis systems for water and wastewater monitoring and control. ChemScan analyzers are used to detect nutrients, halogens, dissolved metals and optical parameters in water or wastewater. Our analyzers have been installed in municipal and industrial facilities throughout the world. Analyzer and automatic analysis systems manufactured by ChemScan, Inc. are sold under the **ChemScan Process Analyzer** brand name. Please visit chemscan.com for more information.

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