



## Small Team Saves Big Hassles with the Professional Plus Multiparameter Instrument

The lab team at Greene County Sanitary Engineering in Beavercreek, Ohio, has plenty to do in the field as well as back at the laboratory, so doing a couple of things at once saves them time and money. The crew conducts monthly sampling on the Little Miami River, a State and National Scenic River, and Massie Creek to monitor the county's two wastewater treatment plants and comply with monthly and quarterly National Pollutant Discharge Elimination System (NPDES) reporting requirements.

Grab samples are taken at each site and analyzed for ammonia, total Kjeldahl nitrogen (TKN), nitrate, nitrite, phosphorus, hardness, metals, Fecal coliform, oil & grease and mercury. Additionally, on-site, laboratory technician Teresa Shinkle and her team take measurements of temperature, dissolved oxygen (DO) and pH at each location.

In the past, Shinkle and her colleagues carried separate YSI meters for pH and DO, she notes. Now they use the YSI Professional Plus handheld multiparameter instrument, which allows them to measure pH, DO and temperature with one quick, reliable instrument.

"It's nice carrying only one meter instead of separate meters," Shinkle notes. That's especially helpful at hard-to-reach sites, which are tough enough to sample once, let alone twice. Shinkle describes one of those sites at which her team has to work.

"What we have to do is drop a bucket from the bridge at one of our upstream sites, because there is no way to get down to the river and grab the samples and take a pH at that time," she says. "Using the Pro Plus is so much nicer and less timeconsuming – we get the results all at once."

Reaching for samples from 30 or 40 feet above the river can put equipment through rigorous, unplanned tests, as the Greene County team found out during a flood.

"The river was high and muddy, and strong enough to pull our cable and sensor downstream," Shinkle recalls. "Because the hand strap wasn't tightened, our Pro Plus was jerked out of the operator's grasp. We realized it was gone, completely submerged at a depth of about 10 to 15 feet.



*The view from the bridge to sample the receiving waters in Ohio.*

"Exactly a week later, with the flow down, we went back to look for it. Two lab employees wearing life jackets and swim gear started up-river, using a long pole to scrape the bottom of the river which is where we first found the cable and then the meter. We pulled the Pro Plus out of the water, turned it on and it worked! We were amazed."

### User Guidance

The Pro Plus was built to stand real-world conditions like that, says Laura St. Pierre, assistant product manager at YSI Inc. in Yellow Springs, Ohio. "We asked our customers what they needed from an instrument that could be used in the field and in the lab, then built the instrument they told us they needed," St. Pierre notes.

The biggest message the engineers heard was the need for

flexibility. The Pro Plus can be configured to measure pH, oxidation-reduction potential (ORP), conductivity, DO, temperature, salinity, ammonium, nitrate, chloride, total dissolved solids (TDS), DO with a self-stirring BOD-style probe and barometric pressure. Many of the user-replaceable cables and sensors are available in either lab or field grade, and most are available in different lengths to meet the specific needs of the technicians using them.

(continued)



*Sampling the receiving waters with a Pro Plus .*

St. Pierre says many users requested an instrument versatile enough to deliver accurate readings in the lab and rugged enough to withstand varying field conditions. YSI introduced the Pro Series line of instruments to answer this need.



*Beaver Creek, Ohio wastewater plant aeration basin.*

Durability is key in the field. The Pro Plus floats in water, withstands drops at any angle from at least 1-meter, and endures temperature extremes from -20 to 70 Celsius. Its rugged construction and a rubber over-molding meet IP67 standards, even without the battery cover, and military-spec connectors ensure secure connections. The rubber over-molding is also helpful indoors – its texture keeps the instrument from sliding around on lab tables.

St. Pierre points out that the Pro Plus had to be more than strong – it had to be smart, too. YSI Data Manager software is a powerful data management tool that allows users to graph, display and analyze data uploaded from the Pro Plus as well as assist with configuring the instrument, or multiple instruments, for use.

The quick-configuring Pro Plus also features built-in sensor diagnostics, calibration memory, user-defined auto-stable, data search functions, and up to six point pH auto-buffer recognition. It even contains its own onscreen Help system, eliminating the need to carry around bulky manuals.

Tackling versatility and durability was a challenge, says St. Pierre, but customer input also led to the little details that make the Pro Plus the top choice for water quality professionals – fine points like a backlit keyboard for low-light conditions and a screen that can be read through polarized glasses. “When you’re cold and wet and in the middle of a long day, the little details can really mean a lot,” she notes.

They certainly do to Shinkle and her colleagues, both in the lab and in the field. “I really like the Pro Plus because of the all-in-one monitoring,” Shinkle says. “It’s nice that the meter will not shut off during logging accidentally. And we’ve always had a good rapport with YSI products.”

*For additional information including specifications on YSI instruments, please visit: [www.ysi.com](http://www.ysi.com) or [www.ysi.com/proplus](http://www.ysi.com/proplus)*

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