

# Butler Eagle

## Water purified for fracking

*Mine drainage cleaned, reused*

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By Tom Victoria

**CLINTON TWP** — A new plant off Lardintown Road is cleaning acid mine drainage so natural gas drillers can use the formerly tainted water in lieu of freshwater.

Winner Water Services, a subsidiary of the nonprofit research and development organization Battelle, is leasing a former mine from Pristine Resources to demonstrate a new process it calls HydroFlex technology.

The process is designed to purify acid mine drainage by removing iron and sulfates.

“You’re taking all of the contaminants out of it,” said T.R. Massey, Battelle spokesman.

The purified water would be sold to drillers engaged in hydraulic fracturing.

Hydraulic fracturing, more commonly known as fracking, is the process in which water, sand and chemicals are pumped at high pressure into a shale formation to crack the rock, releasing the natural gas.

Carolyn Kotsol, Winner Water Services president and chief executive officer, said in an interview the new process addresses two environmental concerns — cleaning acid mine drainage and providing an alternate source of water for fracking to spare fresh water.

Kotsol said the plant was created to put the process into action.

“It’s a startup facility,” she said. “We’re demonstrating our technology.”

The initiative was developed working with state officials, some of whom toured the plant Tuesday.

Karen Winner, Winner Water Services board chairman, explained how a 10-year-old discussion was the genesis of the idea.



Carolyn Kotsol, president and CEO of Winner Water Services, talks Tuesday during the opening of the company's new water treatment facility in Clinton Township.

A former Battelle CEO and her late father Jim Winner — the entrepreneur who invented the anti-theft device The Club — talked about what could be done to clean the state's contaminated waterways.

Winner said purifying Pennsylvania's streams was one of her father's goals so that discussion a decade ago led to the formation of Winner Water Services and the plant.

“We know it's important to be an environmental steward,” she said.

Winner stressed how much water across Pennsylvania is contaminated.

“Six thousand miles of stream is devoid of aquatic life,” she said.

Alan Walker, secretary of the state Department of Community and Economic Development, said addressing acid mine drainage while providing an alternate source of water for drillers is critical.

He said Pennsylvania is projected to be supplying 25 percent of the nation's natural gas demands by 2020.

Walker said it's important to maintain a balance between industrial development and environmental safety.

He explained how acid mine drainage resulted from the initial way mining was done using gravity because pumps weren't invented yet.

Walker said the state shares Jim Winner's goal of decontaminating streams.

“We're cleaning them up one at a time,” Walker said.

During the tour, the purification process was detailed.

Starting with traditional oxidation, the rest of the metal is removed before the sulfates are extracted.

Todd Beers, chief operating officer for Winner Water, said even the material that's removed is in a different form than what's in other systems.

“There's no real heavy sludge this process generates,” Beers said.

He said the system is designed to handle 100 gallons of water per minute.

According to Beers, the system is simple to operate; the chemistry behind the process is what is complex.



A worker checks tanks Tuesday during the opening of Winner Water Services treatment facility in Clinton Township. The facility processes acid mine drainage so natural gas drillers can use it for fracking instead of freshwater. PHOTOGRAPHY BY JUSTIN GUIDO/ BUTLER EAGLE

He said in an interview that Winner Water is interested in finding a permanent site for a plant.

Eric Cavazza, director of the state Department of Environmental Protection's Bureau of Abandoned Mine Reclamation, hopes the data indicates the decontamination is successful.

"I believe the technology will work," Cavazza said in an interview.

According to Massey, the plant already is demonstrating the system produces water decontaminated to the level sought by the drilling industry.

Winner Water must determine the cost-effectiveness of the operation.

"The cost effectiveness is a must and we will prove that as we continue to operate the system," Massey stated in an e-mail.

Winner Water has operated a water treatment facility in Sykesville, Jefferson County, since 2012.

Dealing with acid mine drainage is part of Winner Water's water management services to the unconventional oil and gas industry, which include remediation, recycling, permitting and engineering services.

Cavazza said much of the criticism levied at natural gas drilling is unwarranted.

"It's not a new technology," Cavazza said. "Horizontal drilling is what changed the game."

Walker agreed.

"The environmentalists are trying to paint an awful picture," he said.

Walker was satisfied with what he saw on the tour.

"We need projects like this," he said.

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