

# Campaigns heat up as fundraising begins

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The state's candidates for governor and U.S. Senate reported on their fundraising progress Monday, just before the Democratic and Republican state committees consider making endorsements for the nominations at stake in the May primary.

Dan Onorato's campaign had \$6.5 million at the end of 2009 — considerably more than any other gubernatorial candidate in either party, according to a summary of its campaign finance report.

The total includes surplus funds from the county committee that

helped get Onorato elected to two terms as the Allegheny County executive and \$3.7 million that the Democrat raised last year for his gubernatorial campaign.

"We are confident we will have the resources we need to educate voters about Dan's record of accomplishment and his vision for Pennsylvania," said Kevin Kinross, Onorato's campaign manager.

In the U.S. Senate race, Republican-turned-Democrat Arlen Specter had \$8.7 million on hand at year's end — more than U.S. Rep. Joe Sestak, who is opposing Specter in the Democratic primary, or conservative Republican Pat Toomey, the former congressman

who nearly ousted Specter in the GOP primary in 2004 and is the front-runner for the Republican nod this year.

The fifth-term senator received \$1.1 million in contributions during the fourth quarter, but sent out more than \$602,000 in refunds — mostly to contributors who were unhappy with Specter's party switch and took him up on his promise to make refunds to donors who requested them, according to a campaign spokesman.

Sestak reported ending 2009 with \$5.1 million on hand, including money he raised through his congressional campaign committee.

Toomey ended the year with \$2.8 million, but he raised \$1.7 million

in the fourth quarter — more than Specter.

Candidates' ability to raise money is a litmus test of the strength of their candidacies and especially crucial in statewide campaigns that depend on expensive TV advertising.

The federal and state finance reports periodically force candidates to put their fundraising cards on the table and disclose the sources of their money, although only financial summaries were available for nearly all the candidates Monday, the filing deadline.

The Democratic State Committee meets Saturday in Lancaster to consider endorsing candidates for governor and Senate. The

Republican State Committee plans a similar meeting Feb. 13 in Harrisburg.

In the GOP nomination race for governor, state Attorney General Tom Corbett reported \$4.2 million in contributions and a year-end balance of \$3.2 million. His only opponent, state Rep. Sam Rohrer of Berks County, raised more than \$130,000 through his legislative and gubernatorial committees and had \$62,330 on hand.

Trailing Onorato on the Democratic side were state Auditor General Jack Wagner of Pittsburgh, who reported \$676,450 on hand at the end of the year; former U.S. Rep. Joe Hoeffel, with \$229,079; and Scranton Mayor Chris Doherty, with \$94,514.

# Drilling productive, yet scientists worry about dying ecosystem

By VICKI SMITH  
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A drilling technique that is beginning to unlock staggering quantities of natural gas underneath Appalachia also yields a troubling byproduct: powerfully briny wastewater that can kill fish and give tap water a foul taste and odor.

With fortunes, water quality and cheap energy hanging in the balance, exploration companies, scientists and entrepreneurs are scrambling for an economical way to recycle the wastewater.

"Everybody and his brother is trying to come up with the 11 herbs and spices," said Nicholas DeMarco, executive director of the West Virginia Oil and Natural Gas Association.

Drilling crews across the country have been flocking since late 2008 to the Marcellus Shale, a rock bed the size of Greece that lies about 6,000 feet beneath New York, Pennsylvania, West Virginia and Ohio. Geologists say it could become the most productive natural gas field in the U.S., capable of supplying the entire country's needs for up to two decades by some estimates.

Before that can happen, the industry is realizing that it must solve the challenge of what to do with its wastewater. As a result, the Marcellus Shale in

on its way to being the nation's first gas field where drilling water is widely reused.

The polluted water comes from a drilling technique known as hydraulic fracturing, or "fracking," in which millions of gallons of water, sand and chemicals are blasted into each well to fracture tightly compacted shale and release trapped natural gas.

Fracking has been around for decades. But the drilling companies are now using it in conjunction with a new horizontal drilling technique they brought to Appalachia after it was proven in the 1990s to be effective on a shale formation beneath Texas.

Fracking a horizontal well costs more money and uses more water, but it produces more natural gas from shale than a traditional vertical well.

Once the rock is fractured, some of the water — estimates range from 15 to 40 percent — comes back up the well. When it does, it can be five times saltier than seawater and laden with dissolved solids such as sulfates and chlorides, which conventional sewage and drinking water treatment plants aren't equipped to remove.

At first, many drilling companies hauled away the wastewater in tanker trucks to sewage treatment plants that processed the water and discharged it into rivers — the

same rivers from which water utilities then drew drinking water.

But in October 2008, something happened that stunned environmental regulators: The levels of dissolved solids spiked above government standards in southwestern Pennsylvania's Monongahela River, a source of drinking water for more than 700,000 people.

Regulators said the brine posed no serious threat to human health. But the area's tap water carried an unpleasant gritty or earthy taste and smell and left a white film on dishes. And industrial users noticed corrosive deposits on valuable machinery.

One 11-year-old suburban Pittsburgh boy with an allergy to sulfates, Jay Miller, developed hives that itched for two weeks until his mother learned about the Monongahela's pollution and switched him to bottled or filtered water.

No harm to aquatic life was reported, though high levels of salts and other minerals can kill fish and other creatures, regulators say.

Pennsylvania officials immediately ordered five sewage treatment plants on the Monongahela or its tributaries to sharply limit the amount of frack water they accepted to 1 percent of their daily flow.

"It is a very great risk that what happened on the

Monongahela could happen in many watersheds," said Ronald Furlan, a wastewater treatment official for the Pennsylvania Department of Environmental Protection. "And so that's why we're trying to pre-empt and get ahead of it to ensure it doesn't happen again."

Regulators in Pennsylvania are trying to push through a new standard for the level of dissolved solids in water released from a treatment plant.

West Virginia authorities, meanwhile, have asked sewage treatment plants not to accept frack water while the state develops an approach to regulating dissolved solids.

And in New York, fracking is largely on hold while companies await a new set of state permitting guidelines.

For now, the Marcellus Shale exploration is in its infancy. Terry Engelder, a geoscientist at Penn State University, estimates the reserve could yield as much as 489 trillion cubic feet of gas. To date, the industry's production from Pennsylvania, where drilling is most active, is approaching 100 billion cubic feet.

Wastewater from drilling has not threatened plans to develop the nation's other gas reserves. Brine is injected into deep underground wells in places such as Louisiana, Texas and Oklahoma, or left in evaporation ponds in arid states such as

Colorado and Wyoming.

However, many doubt the hard Appalachian geology is porous enough to absorb all the wastewater, and the climate is too humid for evaporating ponds. That leaves recycling as the most obvious option.

Entrepreneurs are marketing portable systems that distill frack water at the well site.

Also, in southwestern Pennsylvania, Range Resources Corp., one of the gas field's most active operators, pipes wastewater into a central holding pond, dilutes it with fresh water and reuses it for fracking. Range says the practice saves about \$200,000 per well, or about 5 percent.

In addition, a \$15 million treatment plant that distills frack water is opening in Fairmont, W.Va. The 200,000 gallons it can treat each day can then be trucked back for use at a new drilling site.

For years, regulators let sewage treatment plants take mining and drilling wastewater under the assumption that rivers would safely dilute. But fracking a horizontal well requires huge amounts of water — up to 5 million gallons per well, compared with 50,000 gallons in some conventional wells.

"In this case," said John Keeling of MSES Consultants, which designed the Fairmont plant, "dilution is not the solution to pollution."