

1. What is baseline water testing?

The advent of “hydrofracking” technology for gas drilling puts homeowners who have private drinking water wells at some degree of risk. The likelihood of water contamination is uncertain, but a pre-drilling baseline test is a form of insurance for homeowners against that possibility.

The baseline test looks for “signature chemicals” that are typically associated with gas well activity, including waste fluids. If later water tests show significantly increased levels of these “signature chemicals” after drilling occurs, the changes would provide evidence that contamination had resulted from drilling activities.

2. What are the chances my drinking water will be contaminated?

Not enough scientific studies have been done to know for sure, but a reasonable estimate is probably in the 1% to 5% range. According to some studies, the most likely sources of groundwater contamination are failure of the cement casing surrounding the well bore, and

accidental spills of chemicals or waste fluids during transport, drilling, or storage.

3. What should I test my water for and what does it cost?

CSI recommends testing for a comprehensive baseline set of “signature chemicals”, based on current shale gas extraction technology. The tests cover chemicals and conditions that have the greatest probability of being present in gas drilling operations or waste: pH, alkalinity, turbidity, total suspended solids, total dissolved solids, chloride, conductivity, MBAS (detergents), chemical oxygen demand, total hardness, calcium, barium strontium, arsenic, iron, manganese, methane, volatile organic compounds, and gross alpha and beta radioactivity. The set of baseline tests costs \$668 plus travel expenses for collecting the water sample.

4. When should I test my water?

Water can be tested any time up to five years prior to drilling. Notwithstanding slight seasonal fluctuations, groundwater quality is essentially constant, absent

major events such as droughts or earthquakes. The federal and state governments routinely monitor water quality every five to six years.

5. Where should I have my water tested?

Only test results from a lab certified by NY State Department of Health are admissible in legal proceedings involving gas wells in New York. Any NY certified lab that is set up to handle gas well baselines can do the tests. You can find a list of certified laboratories at www.wadsworth.org/labcert/elap/comm.html. CSI recommends that the baseline include all the tests listed above, regardless of which NY certified lab is used. Also, be sure the sample is collected by an unbiased third party, either staff from the lab or another water quality professional, following required protocols.

6. Who owns the baseline test results?

Whoever pays for the tests, owns the results. If a gas company pays, the results belong to the gas company. The owner of the test results must give written permission to a laboratory before it could release information to another party.

7. How can I help protect our water?

Groundwater is the ultimate source of water, both in streams, ponds and lakes and in aquifers providing drinking water for rural households in our region. Contamination of groundwater is a potentially catastrophic event, because it is all but impossible to remediate, and because it can lead to contamination of surface water. Despite the critical role of groundwater in our quality of life, it is generally taken for granted.

CSI has recently begun seeking permission from our private clients to pool their results and present them in an anonymous format on the Internet as a first step towards establishing a regional baseline of pre-drilling groundwater quality. The goal is to promote public awareness and understanding of groundwater that can help communities evaluate the consequences of contamination from “hydrofracking.”

Additionally, CSI has begun partnering with groups of volunteers to collect baseline data on pre-drilling water quality in streams and lakes in the Southern Tier. Financial support for baseline monitoring partnerships is sought from foundations, individuals and local governments.



Community Science Institute

www.communityscience.org

284-286 Langmuir Lab/Box 1044
95 Brown Road
Ithaca NY 14850

Voice/Fax (607) 257-6606

Certified Water Testing
NYSDOH-ELAP #11790
EPA Lab Code NY01518

Stephen Penningroth
Executive Director
lab@communityscience.org

June, 2011

Benefits of Baseline Water Testing

By **Stephen Penningroth, Ph.D.**
Executive Director
Community Science Institute

This information is provided as a public service by the Community Science Institute (CSI), a nonprofit, tax-exempt organization whose mission is to monitor and protect natural resources, particularly water. CSI operates the largest state-certified water quality testing laboratory in Tompkins County, located near the Ithaca airport. We currently partner with a network of 75 volunteers to monitor water quality in Cayuga Lake and Southern Tier streams. Results are provided to the public in our data archive at www.communityscience.org/database.

CSI has offered certified baseline testing of private drinking water wells since 2009.

