Managing your Private Water Supply
Related to Natural Gas Development in Schuyler County

Assessing Risk

One of the most frequent concerns when discussing hydrofracking and natural gas development within Schuyler County is the potential impact to water resources—often directly, "what are the risks to my water supply?" and "what should I do to protect my own water supply?" The answer to the first question is particularly polarizing, often hotly debated, and will certainly not be answered within this document. The answer to the second question is more easily provided—although not without its own costs, caveats and disclaimers. As the owner of a private water supply, you are in charge and responsible to ensure that the water you get from the faucet is suitable to drink—not the town, county, state or the federal government. A considerable amount of legislation and public money has been expended to protect that water from contamination, but in the end, no institution can ensure that the water from your own well is fit to drink.

So, the simple answer to the second question (what should I do to protect my water supply?) is; if you have a private water supply have your water tested for various parameters prior to drilling in your area, continue testing during the development activity to compare and assess potential impact, and then continue testing for several months to years after drilling has ceased. The real difficulty comes in deciding what parameters to test for and when to conduct the testing. It should be noted that under the draft NYS DEC regulations, the drilling company is required to conduct testing, through an independent testing company, for any private supply if you are within 1000 ft (or 2000 ft if no private supplies exist within 1000 ft) of a proposed gas well. This takes place at the company's expense and at regular intervals thereafter. The required testing parameters are indicated on the table under column 1.

When and how to test

Testing should occur as close as possible to the date the development activity will take place. It appears likely that most hydrofracking activity in NYS will occur east and south of Schuyler, at least during the initial phases. Therefore, while it's appropriate to routinely test your water for contamination and you are encouraged to do so, if your concern within Schuyler County is hydrofracking, testing your water now is likely not an economical means to protect your water supply (unless you're interested in establishing a true baseline study; which entails spending thousands of dollars over several seasons). . All analysis should be conducted by an independent, third party NYS approved laboratory (list available at www.wadsworth.org). It is also encouraged to have an unbiased third party, such as the Schuyler County Watershed Protection Agency or the lab, collect the sample. Preferably, analysis is suggested to take place one to three months prior to development of the gas well. It is recommended to have additional follow up analysis conducted every three months until the drilling activity ceases, at which point it's suggested to occur yearly thereafter.

What to test

Generally speaking, the greater the number of parameters analyzed, the better position you're in to adequately assess your health risks. Unfortunately all tests cost money and the more tests you do the more you spend. With this paradox in mind, the Schuyler County Energy Task Force and the Water Quality Coordinating Committee compiled a broad array of parameters for testing prior to drilling (column 2), and then reduced the number of parameters collected for follow up sampling (column 3 if affordable, column 4 at minimum). The parameters suggested are chosen as broad chemical indicators of the most possible water quality risks, while also reflecting analytical costs. However, if the costs are not prohibitive, more parameters are better (columns 1 or even all parameters listed). In the event testing indicates variation within the results, a broader suite of follow up tests is advisable. As a disclaimer, these parameters are offered as general guidance and do not address all potential health risks associated with your water supply. The recommendations do not represent a technical review of current or proposed hydraulic fracturing practices and associated risks, and should be viewed as advisory.

Additional Resources and Contacts

For the purposes of this guidance document, multiple sources were researched. Two documents, Otsego County Soil and Water Conservation District's "General Guidance Document on Well Water Monitoring in Advance of High Volume Horizontal Hydrofracking" and Penn State Coop Ext Water Fact Sheet #28 "Gas Well Drilling and Your Private Water Supply", were particularly useful and are referenced within the table on the opposite page (columns 5 and 6), and should be consulted by anyone considering conducting analysis (both documents are readily available on line). Additional information on water quality testing and water supply concerns can be obtained by contacting the Schuyler County Watershed Protection Agency at 607-535-6868 or the Hornell District Field Office of the NYS Dept of Health at 607-324-8371.

		Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	
Approx. Cost (not including collection and other fees)	Compound	NYS DEC Mandated test within radius from Draft Regulation	Suggested Baseline Testing	Reduced Follow Up Testing	Minimum Follow Up Testing	Penn State Ext WQ Fact Sheet #28	Otsego SWCD Guidance Doc	Maximum Contaminant Level or guideline recommendation*
$15-25	Chloride	X	X	X	X	X	X	250 mg/l
$10-15	Total Dissolved Solids (TDS)	X	X	X	X	X	X	500 mg/l
$15-20	Conductivity		X	X	X		X	no designated limit
$10-20	Chemical Oxygen Demand		X	X	X			no designated limit
$5-10	pH	X	X	X	X	X	X	no designated limit
$20-25	Bromide		X	X			X	no designated limit
$8-15	Total Hardness	X	X	X		X	X	no designated limit
$40-50	Gross Alpha	X	X	X		X		15 picocuries/liter
Incl. above	Gross Beta	X	X	X				4 mrem/year
$15-20	Alkalinity	X	X			X	X	no designated limit
$10-15	Turbidity	X	X					5 NTU
$15-20	Barium	X	X			X	X	2 mg/l
$15-20	Iron	X	X				X	0.3 mg/l
$15-20	Manganese	X	X				X	0.3 mg/l
$18-25	Arsenic	X	X			X	X	0.01 mg/l
$18-25	Strontium	X	X					no designated limit
$125-175	Methane	X	X			X	X	no designated limit
$40-50	Detergents and surfactants		x			x	x	no designated limit
$10-20	Coliform bacteria	X				X		Any positive result is unsatisfactory
$15-20	Lead	X				X	X	0.015 mg/l
$10-20	Nitrate	X				X		10 mg/l as N
$10-20	Nitrite	X						1 mg/l as N
$10-15	Total Suspended Solids (TSS)	X				X	X	no designated limit
$15-20	Carbonates	X						no designated limit
$15-20	Bicarbonates	X						no designated limit
$20-30	Sodium	X				X	X	no designated limit
$25-40	Iron plus manganese	X				X		0.5 mg/l
$18-25	Sulfate	X				X	X	250 mg/l
$25-35	Hydrogen sulfide	X					X	no designated limit
$70-80	Benzene	X						0.005 mg/l
varies	Static water level	X					X	n/a
$25-35	Total Organic Carbon					X	X	No designated limit
$135-150	Volatile Organic Compounds (incl BTEX)					X	X	Varies
$28-35	Oil and Grease					X		Varies
$60-70	Radon in Water					X		no designated limit
$150-175	Radium 226 and 228					X	X	5 pCi/L
$45-55	Total petroleum hydrocarbon						X	no designated limit
$15-20	Potassium						X	no designated limit
$1050 – 1450	Approximate Total Cost	$575 - 700	$400 - $450	$125 - $150	$60 - $75	$800 - 900	$775 - 850	*MCL and guidelines taken from US EPA / NYS DOH material

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