

WATER QUALITY QUESTIONS

- 1. Can a hydro geologist tell me exactly where the water from Big Mill Creek comes from?**

A hydro geologist would be able to do a study and define your watershed and explain to you the way in which water moves in your area. This is a very expensive study to do and usually costs thousands of dollars to complete.

If a local community public water supply completes a wellhead protection plan, this is what they are doing. A hydro geologist will study the water aquifers that feed the public water wells or reservoir. If they have a public meeting explaining the local wellhead protection plan, this would be an important meeting to attend. The hydro geologist will give you some insights as to where the local water aquifers are and in what direction and how fast the water is moving.

- 2. How big is our aquifer?**

This is difficult to determine without conducting a study which is usually completed by a hydro geologist.

- 3. How far can contamination migrate?**

It depends. Contaminants that interact with and are picked up by water can be carried for several miles. As the water moves through the soil, the soil can sometimes remove the contaminants, but this depends on the chemical characteristics of the contaminant and the makeup of the soil that the water is moving through.

- 4. What about radio activity alpha particles?**

We have a lot to learn about Marcellus Shale Waste and radioactive material. The concerns to date have centered on the workers at the drill site because they would have the most exposure. More research is needed in this area.

- 5. There is gas in my well water. Test taken after my water caught on fire showed lower %, why? A gas well is within 200 yards of my water well. My well is cased 90 feet down.**

Methane can be a naturally occurring problem in water wells in Pennsylvania. There are lots of variables here. The level of methane may not stay at a constant level. More information would be needed to comment on this case. There are tests that can be done to trace methane back to a possible source.

- 6. What is the average cost of the TDS monitor?**

TDS meters can have a range of costs depending on the accuracy of the meter and whether it measures other parameters besides just TDS. Most simple TDS meters cost between \$50 and \$100. Many are available from online suppliers like Forest Suppliers, Inc.

- 7. How do we know the name of the companies in our area?**

You can go to the PA Department of Environmental Protection home page. On the left hit the link "oil and gas" At the oil and gas page scroll down to the word "reports" under the words "Marcellus Shale". On the reports page you will see the wells are listed alphabetically by county and this report will list the operator of each of the wells.

- 8. For a private drilled well, how often should you have the water tested?**
I encourage people to test their well water every 14 months. If you do this, over the course of several years you will have an indication of the quality of the well water throughout the year. You should also test more often if you see any abnormal changes in your water quality and/or if you make any changes or construction to your water system.
- 9. What is the PSE website for the webinars?**
You can find the Penn State Water Webinars by going to extension.psu.edu/water and hit the link in the middle of the page which says "webinar series".
You can find the Penn State Gas Webinars by going to extension.psu.edu/naturalgas and on the right hand side of the page is a link for the webinars.
- 10. Would a drought make water quality testing more essential?**
Drought does not necessarily make water quality testing more essential, but it would be good time to document water quantity, since this information could be used to document the water well yield under the driest (worst) conditions.
- 11. Do you need to have a "blow test" done for well water before a drill site begins drilling?**
I am not aware of any such requirement, but I am sure the gas companies are thoroughly familiar with the geology of the area and the location of public and private water supply sources before the drilling begins.
- 12. We talked about testing drinking water, but what kinds of testing of surrounding streams are being done?**
Many agencies (DEP, Conservation District, Fish and Boat Commission), organizations (watershed, trout unlimited, etc), and individuals are testing streams in our area. In addition, the SRBC Susquehanna River Basin Commission has several real time stream monitoring stations in place in the Susquehanna Basin. More can always be done and often a problem needs to occur before an intensive monitoring effort is made in any one area or stream. If you have purchased a TDS meter to watch your water well quality, that same meter can be used to test and monitor any streams that run through your property.
- 13. How long will the cement in well casing be effective and water proof?**
We hope the cement lasts as long as the gas well is in production. Pressure tests need to be regularly done on gas wells and these tests would be an indicator if this becomes a problem.