

## Recommended Basic Oil and Gas Pre-Drill Parameters

The Pennsylvania Department of Environmental Protection (DEP) has developed the following list of parameters that are suggested for homeowners who wish to independently have their private water supply well tested. The following list does not represent an exhaustive list of testing and homeowners may wish to have their water supply tested for a more extensive list of parameters. Additionally, while it is not recommended, if a homeowner wishes to test for less than those listed, the minimum parameters that should be analyzed are printed in bold and denoted with an asterisk in the table below.

While not required by law, many oil and gas well operators elect to conduct pre-drilling water surveys of water supplies near oil and gas operations to preserve a legal defense to a presumption of liability and the requirement to restore or replace impacted water supplies established by the 2012 Oil and Gas Act. The results of any such testing must be provided to the landowner or water purveyor within 10 days of receipt of the results. For more information, see "Notification of Surface Landowner/Water Purveyor of Well Drilling and Operation or Alteration: Water Supply Protection," Document No. 8000-FM-OOGM0052.

If a homeowner wishes to independently test their water, DEP recommends that the samples be collected prior to well site drilling and earth disturbance activity. To obtain valid results, samples must be collected by a qualified third party. Homeowners may also wish to discuss the option of having the headspace of their private well tested for the presence of methane gas at the time of sampling. Finally, all laboratory analyses must be conducted by an independent Pennsylvania-accredited laboratory in order to be considered valid. Homeowners can sign up for DEP's eNotice system to receive notice of well permit applications DEP has received for wells in the area they choose. The website address is: [www.ahs.dep.pa.gov/eNOTICEWeb](http://www.ahs.dep.pa.gov/eNOTICEWeb).

<i>Analyte (Inorganic)</i>	<i>Analyte (Trace Metal)</i>	<i>Analyte (Organic)</i>
<b>Alkalinity*</b>	<b>Barium*</b>	<b>Methane*</b>
<b>Chloride*</b>	<b>Calcium*</b>	<b>Ethane*</b>
Conductivity	<b>Iron*</b>	<b>Propane*</b>
Hardness	Magnesium	Ethylene Glycol
Bromide	<b>Manganese*</b>	<sup>1</sup> Total Petroleum Hydrocarbons***
<b>pH*</b>	Potassium	<sup>2</sup> VOCs/(BTEX)***
Sulfate**	<b>Sodium*</b>	
<b>Total Dissolved Solids*</b>	Strontium	
<b>Turbidity*</b>	Arsenic	
Total Suspended Solids	Zinc	
	Aluminum	
	Lithium	
	Copper	
	Vanadium	
	Boron	
	Chromium	
	Selenium	

<sup>3</sup> <i>Additional Suggested Testing</i>
Total Coliform Bacteria

<sup>1</sup> Recommended as a preliminary screening test. If test shows a detection for Total Petroleum Hydrocarbons, an environmental professional should be consulted and additional tests considered to identify the specific hydrocarbon source responsible for the water supply impacts. Please note there are many sources of hydrocarbons not related to oil and gas production.

<sup>2</sup> Due to the lower detection limit associated with the test method, volatile organic compounds (VOC)/benzene, toluene, ethylbenzene, and xylene (BTEX) testing may provide a more sensitive method for detecting hydrocarbon impacts.

<sup>3</sup> While not related to drilling activities, Total Coliform Bacteria testing is suggested due to health concerns and as a way to assess overall drinking water quality.

Note - \*As a minimum, a homeowner wishing to have their private water supply well tested should analyze for these parameters. \*\*Consider where coal formations are present. \*\*\*Consider in western Pennsylvania's oil-producing regions.

In addition, there are other recommended practices, testing, and maintenance for private drinking water wells that can be performed by a homeowner. For more information, go to the DEP Private Water Wells website: [www.dep.pa.gov/Citizens/My-Water/PrivateWells/Pages/default.aspx](http://www.dep.pa.gov/Citizens/My-Water/PrivateWells/Pages/default.aspx).

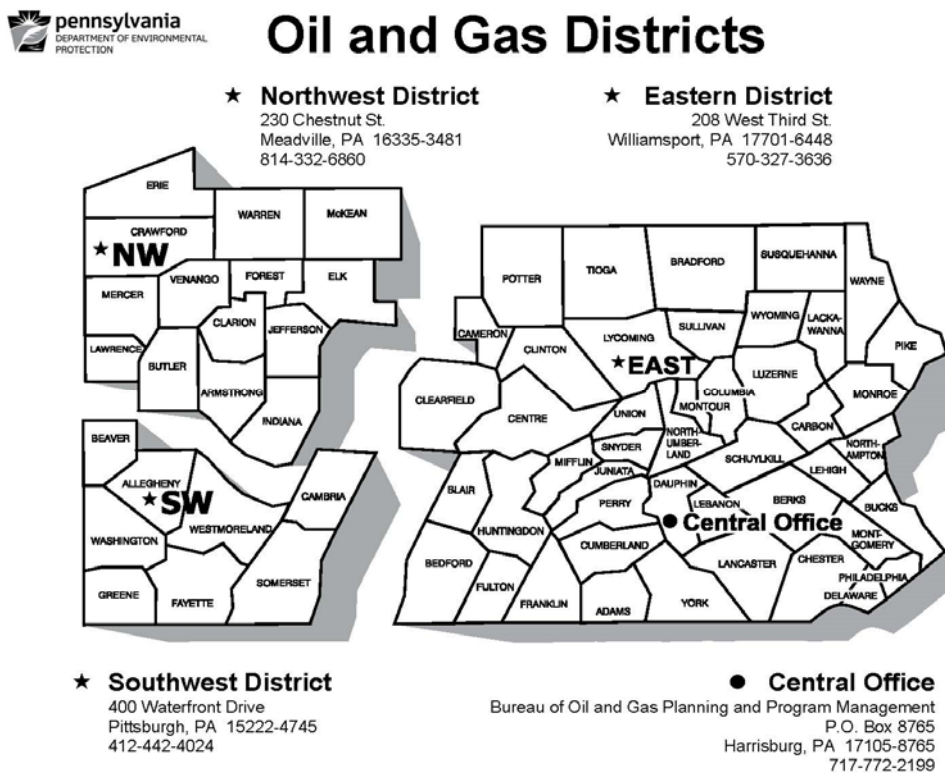
#### How to find a laboratory to perform the testing:

1. Go to [www.dep.pa.gov/Citizens/My-Water/PrivateWells/Pages/default.aspx](http://www.dep.pa.gov/Citizens/My-Water/PrivateWells/Pages/default.aspx). From the tabs on the right side, select "Water Testing". From this website, scroll down to "How Do I Find a Certified Laboratory?". Select the link "To find a laboratory that can perform chemical contaminant testing, you can follow this link (PDF)."
2. Contact a local laboratory and ask if it is accredited to perform the above testing or if it can refer a laboratory that is an accredited laboratory.
3. Contact the DEP Laboratory Accreditation Program via email at [epLabAccredit@pa.gov](mailto:epLabAccredit@pa.gov) or via telephone at 717-346-7200.

#### What to ask/tell the laboratory before sending samples:

1. Inform the chosen laboratory that the homeowner wants to have well water tested for oil and gas pre-drill parameters.
2. Ask the laboratory if it is accredited to perform the requested testing. If the laboratory is not, ask if it will subcontract to an accredited laboratory.
3. Ask the laboratory if it provides sample-collection services. DEP recommends that a qualified third party (a consultant or the laboratory) collect and transport the sample for testing.
4. Instruct the laboratory to perform the testing and reporting of the sample(s) in accordance with all accreditation requirements of 25 Pa. Code Chapter 252 (relating to Environmental Laboratory Accreditation Regulations).

This map shows DEP district office coverage by county for oil and gas activities. Please contact the local district office for information about well permits, transfers, or bonds. Report complaints about wells to your district offices.



For more information, visit [www.dep.pa.gov/O&G\\_factsheets](http://www.dep.pa.gov/O&G_factsheets).