

## Well Water Testing Information and Contacts

### Inorganic Constituents

Several commercial and private entities will test your well water, depending on what type of contamination you may be concerned about. The TWDB conducts a statewide monitoring program to monitor wells in the state's designated major and minor aquifers once every four years, particularly at wells previously sampled, when possible, to more accurately evaluate any changes in water quality. We sample only for dissolved inorganic constituents that mainly occur due to natural causes, or the dissolution of minerals in the surrounding aquifer rock. These inorganic constituents include major ions such as calcium, magnesium, silica, chloride, sulfate, and nitrate; trace metals (or semi-metals) such as iron, manganese, arsenic, and fluoride; and also radionuclides such as gross alpha and radium 226+228.

These constituents, if present at concentrations above drinking water standards, may nevertheless be considered contaminants. Certain aquifers throughout the state are more likely to contain water with excessively high concentrations of particular naturally occurring minerals and chemical compounds, mainly due to the types of minerals present in the aquifer. The TWDB appreciates people who volunteer their well for sampling (of inorganic constituents) if the well is completed in one of the aquifers we are testing that year and if we are able to accommodate the sampling in our schedule and budget. (There are 9 major and 21 minor aquifers throughout the state; however, your water may be coming from any one of the localized aquifers that cover approximately 35% of the state.) **Please call Rebecca Storms, TWDB Groundwater Monitoring, at 512.475.3302** to discuss the possibility of sampling your well at some time during the TWDB sampling cycle. Or you may contact a lab to check for services and costs in your area from this list of labs certified by the Texas Commission on Environmental Quality (TCEQ)

[https://www.tceq.texas.gov/assets/public/compliance/compliance\\_support/qa/txnelap\\_lab\\_list.pdf](https://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf)

### Bacterial Constituents

The TWDB does not sample for organic compounds that typically occur due to human or anthropogenic activities, including coliform bacteria from fertilizer use or leaking septic tanks. However, commercial analytical labs, county health departments in some Texas counties, some river authorities, and the Texas Department of State Health Services (TDSHS) perform this service. Please contact the testing entity before you collect a sample to become informed of requirements for container type and cleanliness, sample volume, number of samples needed, and time constraints for return of the sample. For example, for total coliform testing, water must usually be captured in a sterile container issued by the testing entity and returned within a maximum of 30 to 36 hours. Testing for pH (relative acidity) performed by commercial analytical laboratories must be done on site, but other tests are less time-critical. A list of county health departments that test for total and fecal coliform can be found on the TDSHS website at: <http://www.dshs.state.tx.us/regions/lhds.shtm>. **TDSHS will test for fecal coliform for a**

fee of \$28 (November, 2014) per sample. Call the TDSHS container group (for ordering collection kits) at 512.776.7661. TDSHS Consumer Microbiology - Specimen Collection & Handling website: [https://www.dshs.state.tx.us/lab/mic-cm\\_collect.shtm](https://www.dshs.state.tx.us/lab/mic-cm_collect.shtm)

#### **Total Petroleum Hydrocarbons (TPH):**

As more hydraulic fracturing (“fracking”) is used to extract gas and oil from several shale formations in Texas, well owners are becoming concerned about the potential effects on their groundwater, particularly when they use their water for drinking. When possible, obtaining baseline information before the drilling starts is ideal. Basic TPH testing, ranging from \$75 to \$150 depending on analyzed constituents, is a relatively low-priced, reasonable precaution to take to document pre-drilling (presumably hydrocarbon free) water conditions. This and related tests are also used to verify contamination. Several commercial labs test for TPH, such as the Lower Colorado River Authority (LCRA) Lab in Austin and the Geochemical and Environmental Research Group (GERG) lab at Texas A&M in College Station. (Call for prices at numbers listed below.)

#### **LCRA Environmental Laboratory Services (ELS) <https://els.lcra.org/>**

**Call 512.356.6023 for requirements for sampling and analysis costs of:**

- \* Total Petroleum Hydrocarbon (TPH). Other frequently requested tests include--
- \* Total coliform bacteria
- \* Nitrate (possibly from septic systems and fertilizers)
- \* Total Dissolved Solids (amount of total dissolved inorganic constituents that occur naturally)
- \* Lead (from household plumbing)
- \* Total organic carbon
- \* Fluoride
- \* Sulfate
- \* Chloride
- \* Iron
- \* Calcium

#### **Geochemical and Environmental Research Group (GERG) Texas A & M University**

<http://gerg.tamu.edu/>. Call Dr. Terry Wade at 979.862.2325 about collection

**procedures and latest costs for:**

- \*Total Petroleum Hydrocarbon (TPH) and other, more specialized hydrocarbon tests.

#### **Texas A & M AgriLife Extension Service--Soil, Water, and Forage Testing**

**Laboratory <http://soiltesting.tamu.edu/>, 979.845.4816.**

- \* Routine irrigation water analysis- Includes conductivity, to determine relative amount of total dissolved solids; pH, to determine relative alkalinity/acidity; and other ions including sodium, calcium, magnesium, potassium, carbonate, bicarbonate, sulfate, chloride, boron, and nitrate
- \*Routine irrigation and metals (zinc, iron, copper, manganese)
- \*Routine irrigation and heavy metals (barium, nickel, cadmium, lead, chromium, fluoride)

**The Edwards Aquifer Research and Data Center** <http://www.eardc.txstate.edu/lab-services/analytical.html>, **512.245.2329**. The campus of Texas State University performs a well-water study for testing of 13 different parameters: total dissolved solids (TDS), alkalinity, hardness, calcium, magnesium, iron, manganese, sodium, sulfate, chloride, fluoride, nitrate, and bacteria. The test takes about five to ten days.