

## **PREVENTING GROUNDWATER POLLUTION: OIL AND GAS PRODUCERS**

### **March 2012**

#### **PREVENTING GROUNDWATER POLLUTION IS YOUR JOB, TOO!**

In the areas of Kentucky where oil and gas wells are operating, people also rely on groundwater for their drinking water, so it is especially important to protect groundwater from pollution. Even though no one may be living near the oil production wells, groundwater still can be polluted by activities associated with producing the oil and gas. This is because groundwater can travel a considerable distance from the production wells to springs or wells being used for water supply.

#### **THE GROUNDWATER PROTECTION PLAN REGULATION HELPS US PREVENT GROUNDWATER POLLUTION**

Once polluted, groundwater is very difficult and expensive to clean up. It is always best to **prevent** groundwater pollution in the first place. The purpose of the Groundwater Protection Plan Regulation (401 KAR 5:037) is to get people who conduct activities that have the potential to pollute groundwater to conduct their activities in a way that will prevent the pollution. Activities associated with oil and gas production have the potential to pollute groundwater. For this reason, you will need to develop a Groundwater Protection Plan (GPP).

Information about GPPs can be obtained by going to the GPP Program Website at <https://eec.ky.gov/Environmental-Protection/Water/Protection/GW/GWProtect>. If you have questions or need assistance in developing your GPP, call (502) 564-3410 and ask for the Groundwater Protection Plan Program coordinator.

#### **WHAT ARE SOME ACTIVITIES THAT OIL AND GAS PRODUCERS SHOULD PAY SPECIAL ATTENTION TO?**

##### **ACCUMULATIONS OF OILY LIQUIDS IN THE SPCC CONTAINMENT AREA**

- Inspect SPCC system at least monthly. Check tank foundations, connections, coatings, tank walls, and the piping system for leaks and repair them as needed.
- Remove oily liquids from containment area as soon as possible. Clay dirt is not impervious to petroleum. Unless an impervious liner is used on the floor of the containment area, oily liquids will seep through the dirt floor and pollute groundwater. Groundwater pollution is very expensive when you consider the cost of the cleanup, the fines imposed for polluting the waters of the Commonwealth, and the income lost due to loss of product that could have been sold. Remember, too, that oil in groundwater may mean oil in someone's drinking water. So removing oily accumulations as soon as possible is important financially, but it's also part of being a good neighbor.

##### **SPCC DIKES**

- Is the bermed area around the tanks large enough to contain the volume of the largest tank? Inadequate sizing can lead to overflows and massive cleanup of the ground surface outside the berm.
- Does the bermed area include all the tanks? If not, the berm must be enlarged or a berm constructed around the unprotected tank(s) .

- Is the berm well maintained? An eroded-down wall, or even a small crack can allow oily liquids to escape the containment area.
- Does an impervious liner compatible with the contents of the tank(s) cover the floor and berm of the containment area? A liner is the best means of protecting groundwater.

### **SPILLS OUTSIDE THE DIKE OR AROUND THE WELLHEAD**

- Spills, no matter how small, must be cleaned up as soon as detected. It is the small spills that accumulate over time that cause serious groundwater pollution.
- Spill containment and cleanup material must be available at the site to deal with any spill, regardless of size.

### **KEEPING TANKS IN GOOD SHAPE**

To prevent tanks from leaking:

- Properly maintain any tank bolts, gaskets, rivets, seams, and other parts.
- Keep each tank free of cracks and holes.
- Keep each tank free of excessive rust and exterior corrosion. There are excellent coatings available to prevent rust and corrosion if applied when needed.

### **PROPERLY CLOSING THE PRODUCTION SITE**

- Follow the closure requirements in the Commonwealth of Kentucky Oil and Gas Well Operator's Manual.
- Remove all tanks. Tanks that contain any product will eventually leak due to lack of maintenance. The leaked oil will seep through the soil and into groundwater.
- Properly plug wells. Unplugged or improperly plugged wells allow surface water and other surface pollutants to enter groundwater directly and pollute it.

### **HELPFUL INFORMATION**

- Commonwealth of Kentucky Oil and Gas Well Operator's Manual, June 2011.
- USEPA Web site <http://www.epa.gov/oilspill>.