

# Do You Have a Class V Injection Well?

by Valerie Orr

The answer may be “yes” if you have a “dry” well, septic system, or a heat pump return flow well.

There are actually 30 different types of Class V wells, sometimes referred to as shallow injection wells or “dry” wells. Some of the more common types of wells include: storm water drainage wells, industrial disposal wells, heat pump and air conditioning return flow wells, cesspools, septic systems, floor drains and sump pumps. The majority of these wells are simple in construction and inject fluid into shallow, geologic formations by gravity flow or low-volume pumps.

Class V wells generally inject nonhazardous fluids into or above an underground source of drinking water and are frequently located in areas not served by storm sewers or sanitary sewer systems. When improperly managed, Class V wells pose a significant threat to the ground water.

When municipalities experience rapid growth or have limited or no storm sewer systems, storm water drainage problems are often the result. In Ohio, a common solution has been to take advantage of the local geology by directing these fluids below the sub-surface through storm water drainage wells directly into the ground water. Storm water drainage wells can vary in depth from a few feet to a few hundred feet, depending upon the geology of the area.

Storm water runoff can contain a wide variety of contaminants from streets,

highways, parking lots, roofs, lawns, gardens and industrial and construction sites.

Pollutants commonly found in storm water runoff include lead, gasoline, oil, grease, tar, residue from paving, rubber particulates, herbicides, pesticides, fertilizers, coliform bacteria, de-icing salts, liquid wastes, industrial solvents, and asbestos. Not only do pollutants reach the ground water accidentally through storm water drainage wells due to spills and leaks, but often contamination occurs when wastes, including used motor oil, and antifreeze, household chemicals and industrial wastes are intentionally dumped into or near the wells.

Industries, businesses and utilities generate a wide variety of fluids, wastes or wastewater during daily operations. Refineries, chemical plants, smelters, pharmaceutical plants, laundromats, dry cleaners, funeral homes and mortuaries, tanneries, and laboratories are just a few of the places that may use industrial disposal wells or septic systems to dispose of their wastes.

Another Class V category is the automotive service disposal well. Automotive wastes or fluids are discharged intentionally or unintentionally to disposal wells or septic systems through floor drains and interceptors. Due to the nature of the fluids often used and generated by industrial and automotive service facilities, these wells are considered a high priority for regulation.

Not all Class V wells cause ground water

contamination. Often, Class V aquifer remediation wells are used in the treatment of contaminated ground water and/or soils. Remediation may involve the injection or re-injection of air, potable water, extracted and treated ground water, and nutrients and/or beneficial bacteria.

All Class V injection wells are regulated by Ohio EPA's Underground Injection Control (UIC) unit of the Division of Drinking and Ground Waters (DDAGW). UIC regulations require the owners or operators of new and existing Class V injection wells to report the wells for inventory purposes. Any wells installed after November 9, 1985, for the purpose of injecting sewage, industrial waste, or other waste as defined in the Ohio Revised Code must apply for an installation and operating permit.

UIC regulations strictly prohibit injecting any contaminant that exceeds primary drinking water standards into an underground source of drinking water.

For further information regarding Class V injection wells, please contact the DDAGW, UIC unit.