

INJECTION WELL DISPOSAL

According to the U.S. Environmental Protection Agency (EPA), as of 2011, there are about 168,000 Class II deep injection wells in the United States

What are injection wells?

These deep, subsurface wells – also known as Class II injection wells – are drilled into porous formations of limestone or sandstone. Often these wells have been drilled specifically for injection disposal; however, some are exploratory wells that never produced or were once active but now no longer produce natural gas or oil.

The average Class II well is about 4,000 feet deep. All injection wells are strictly regulated in Ohio by the Ohio Department of Natural Resources (ODNR), Division of Oil and Gas Resources Management and the United States Environmental Protection Agency (U.S. EPA).

Safety first!

Class II injection well disposal is the safest, most environmentally friendly method of disposal and has been used in Ohio since the 1960s. According to the U.S. EPA, it is the best way to ensure that underground sources of drinking water are not contaminated by fluids produced from the drilling, stimulation, and production of oil and gas.

A new law signed in 2012 added additional testing requirements, reporting standards and expanded ODNR authority further strengthening regulations related to Ohio's Class II injection wells.

What is being injected into these deep wells?

The natural gas and oil drilling process creates oil-field wastes, often referred to as brine or flowback. As defined by the U.S. EPA, only oil-field wastes may be transported from drilling sites and injected into Class II wells, which are specifically designed for this type of waste disposal.

How is our groundwater protected during disposal?

Class II injection wells require at least four layers of protective steel casing and cement, which safeguards underground water aquifers. The injection zone is always below a layer of impermeable formation, which keeps the fluids trapped deep in the porous formations below.

All aspects of the drilling and construction of Class II injection wells and surface casing are witnessed by an inspector. After deep injection begins, inspectors continue to monitor the well on a regular basis for mechanical integrity. Each well is inspected about once every 10-11 weeks.

Nearly 30 years of responsible management

Managed by ODNR since 1983, the state's Underground Injection Control (UIC) Program has successfully injected large volumes of oilfield wastes, protecting underground sources of drinking water and our ecosystem. Fees raised by injection wells support permitting, certification, and inspection of wells and service operations.

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Additional Resources

Ohio EPA:
epa.ohio.gov

Penn State Marcellus Center:
marcellus.psu.edu

Frac Focus:
fracfocus.org

Ohio Department of
NATURAL RESOURCES
Division of Oil and Gas Resources Management
oilandgas.ohiodnr.gov

