

INJECTION WELL DISPOSAL

WHAT ARE INJECTION WELLS?

Class II injection wells are drilled into porous formations that are capable of accepting fluids. Often these wells have been drilled specifically for injection disposal, however, some are converted wells that never produced or were once active but now no longer produce natural gas or oil.

All injection wells are strictly regulated by the Ohio Department of Natural Resources (ODNR) Division of Oil and Gas Resources Management (DOGRM). The United States Environmental Protection Agency (U.S. EPA) delegated primacy enforcement authority to the DOGRM in 1983 to permit and regulate Class II Injection.

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 oil and natural gas resource development processes create oil-field fluid wastes, often referred to as brine. As defined by the Ohio rules, 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?

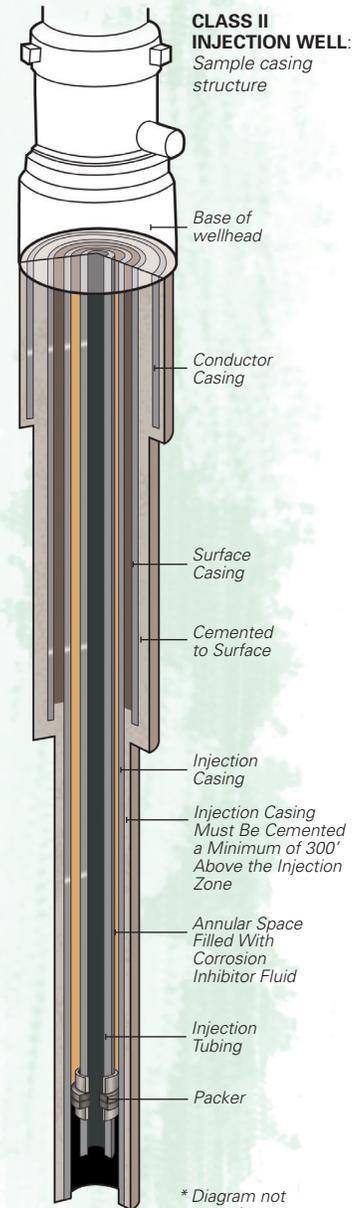
Class II injection wells require multiple layers of protective steel casing and cement, which safeguard underground water aquifers. The injection zone is always below a confining layer or zone, which keeps the fluids trapped deep in the porous formations below. These same confining layers have trapped oil/gas resources for million of years.

All critical aspects of the drilling and construction of Class II injection wells are witnessed by an inspector. Prior to beginning injection and after injection begins, inspectors continue to monitor the well on a regular basis for mechanical integrity. Each well is inspected unannounced about once every 10-12 weeks, on average.

OVER 30 YEARS OF RESPONSIBLE MANAGEMENT

Managed by ODNR since 1983, the state's Underground Injection Control (UIC) Program has successfully allowed injection of oil-field wastes while, protecting underground sources of drinking water and our ecosystem. Fees raised by injection wells support the regulation of oil and gas exploration and development activities in Ohio.

THE DRILLING AND CONSTRUCTION OF CLASS II INJECTION WELLS AND SURFACE CASINGS ARE WITNESSED BY INSPECTORS.



* Diagram not to scale. Depths of individual wells vary.



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