Through its petition process, EPA requires operators to show that injected hazardous waste will remain in the injection zone for 10,000 years, or for as long as the waste remains hazardous.

How Can You Help?

Federal and state UIC programs help protect drinking water resources, but must have local support. Local governments and citizens themselves often are in the best position (and have the greatest incentive) to ensure that injection wells do not endanger underground drinking water sources, public health, and the environment. To find out more about the UIC program and what you can do to protect your drinking water, contact your EPA Regional Office.

UIC

For information contact:

Region 1
Ground Water Management Section
John F. Kennedy Federal Building
One Congress Street
Boston, MA 02203 (617)565-3615

Region 2
Underground Injection Control Section
26 Federal Plaza, Room 853
New York, NY 10278 (212)264-1547

Region 3
Underground Injection Control Section
841 Chestnut Building (3WM43)
Philadelphia, PA 1910 (215)597-9928

Region 4
Underground Injection Control
Section (GWP-3)
345 Courtland Street N.E.
Atlanta, GA 30365 (404)347-3379

Region 5
Underground Injection Control
Section (WD-17J)
77 W. Jackson Street
Chicago, IL 60604 (312)886-1492

Region 6
Underground Injection Control
Program (6W-SE)
1445 Ross Avenue
Dallas, TX 75202-2733 (214)655-7160 or
(214)655-7165

Region 7
Underground Injection Control Section
726 Minnesota Avenue
Kansas City, KS 66101 (913)551-7369

Region 8
UIC Program/Enforcement Section
(8WM-DW)
999 18th Street - Suite 500
Denver, CO 80202-2466 (303)293-1413

Region 9
Source Water Protection Section (W-6-2)
75 Hawthorne Street
San Francisco, CA 94105 (415)744-1838

Region 10
Ground Water Section (WD-133)
1200 Sixth Avenue
Seattle, WA 98101 (206)553-1369

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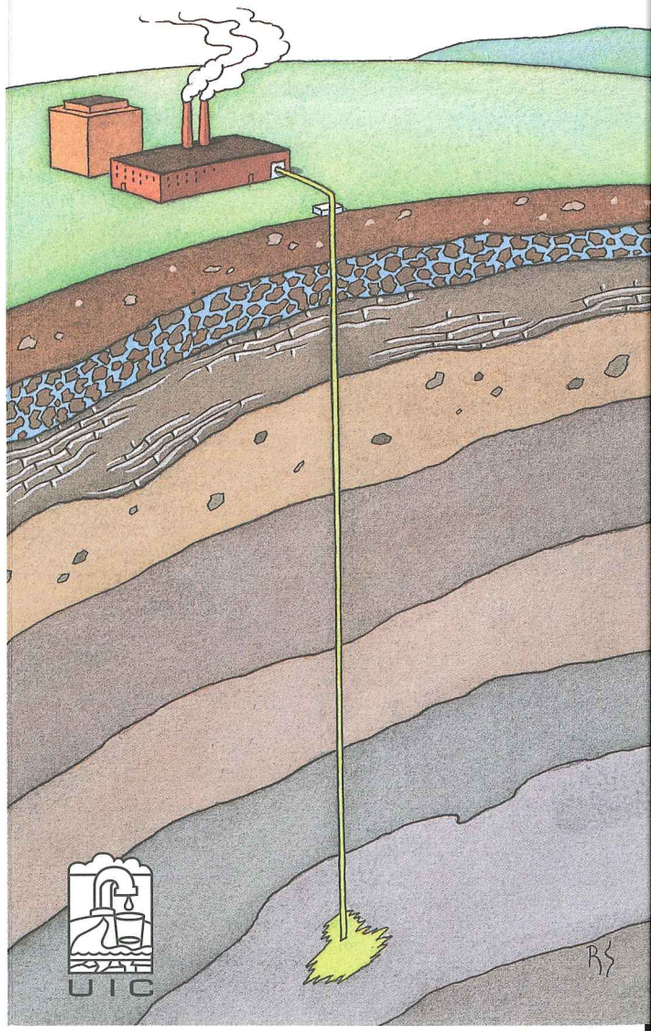
Class I Injection Wells and Your Drinking Water



UIC

More than 89 percent of U.S. public water supply systems draw some or all of their drinking water from sources nd underground in rock, sand, and gravel. ound water also feeds rivers, lakes, and eams used for drinking water. Ground er has no respect for state boundaries. It tinually moves, some-times recharging face waters hundreds of miles away from ere it started.

ost ground water used for drinking is ated near the earth's surface and is easily taminated. Of major concern is the ential contamination of underground rces of drinking water (USDWs) by any he hundreds of thousands of injection ls nationwide. Injection wells dispose of roximately 11 percent of the nation's fluid ste.

he U.S. Environmental Protection Agency PA) is working in partnership with state l local governments to prevent injection ls from contaminating your drinking er resources. You can help by learning ut EPA's Underground Injection Control C) program so that you can identify ction wells in your community that may taminate your drinking water.

Basically, injection wells are man-made or improved "holes" in the ground, which are deeper than their widest surface dimension and are used to discharge or dispose of fluids underground. When properly sited, constructed, and operated, injection wells can be an effective and environmentally safe means of fluid waste disposal. There are many different types of injection wells, but they are all similar in their basic function.

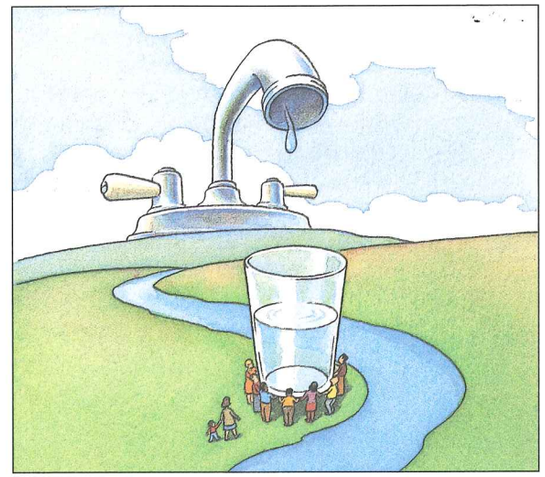
What is a Class I Well?

Class I wells are technologically sophisticated wells that inject large volumes of hazardous or non-hazardous wastes into deep, isolated rock formations that are separated from the lower most USDW by layers of impermeable clay and rock. Although most hazardous waste fluids are treated and released to surface waters, Class I wells account for 89 percent of the hazardous waste fluids disposed of on land. Still, Class I wells inject mostly non-hazardous waste. For example, while all of U.S. industry together injects approximately nine billion gallons of hazardous waste each year, one state alone injects 55 times that amount in non-hazardous wastes.

Under the UIC Program, EPA and the states regulate more than 400,000 injection wells. Class I wells comprise less than one percent of the injection wells in the U.S.

The chemical, petroleum and metals industries use most of the Class I hazardous waste injection wells in the country. The geology of the Gulf Coast and Great Lakes is best suited for these types of wells. Thirteen states have Class I hazardous waste injection wells; Texas has the most.

Almost half of the fluids injected into non-hazardous and municipal waste injection wells are manufacturing wastes; municipal effluent accounts for approximately 28% of the Class I non-hazardous wastes. Florida has the greatest number of non-hazardous/non-commercial wells, followed by Texas and Kansas.

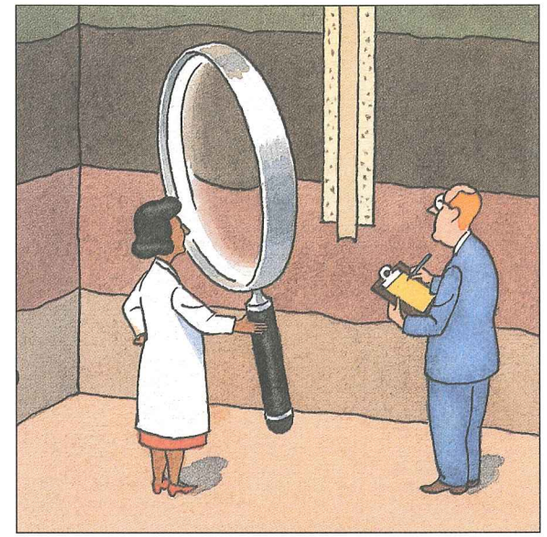


How Does EPA Protect Drinking Water from Class I Wells?

If Class I waste moves out of the injection zone, it could threaten underground drinking water sources. Therefore, EPA's Underground Injection Control program stringently regulates these wells. A 1989 EPA study found that injecting wastes in Class I wells is safer than burying them in landfills, storing them in tanks, or burning the waste in incinerators.

EPA sets minimum design, operation and siting requirements to ensure that Class I wells are a safe means of waste disposal. EPA's standards include provisions that Class I injection wells must be:

- Constructed with several layers of concentric tubing and cement to provide redundant layers of protection, and
- Sited so that the hazardous fluids stay within the injection zone for as long as they remain hazardous.



To ensure that hazardous wastes do not leak from these wells, EPA requires operators to test them at least once a year. The operator also must install and use devices to monitor waste injection pressure, flow rate, and temperature. The well is designed to automatically shut down in the event of a well failure. EPA periodically inspects Class I wells to confirm that opera-tors are adhering to Class I regulations. This comprehensive program prevents contam-ination of underground drinking water sources.