Nevada Division of Environmental Protection
Bureau of Water Quality Planning

Class V Underground Injection Wells
FACT SHEET

What are Injection Wells?

Basically, injection wells are man-made or improved "holes" in the ground, which are deeper than their widest surface dimension. They are used for a variety of purposes, ranging from the disposal of various fluids to the extraction of mineral and hydrocarbon resources. When properly sited, constructed and operated, injection wells are an effective tool for safe waste management. U.S. EPA and the State of Nevada have defined five broad classes of injection wells, according to the types of fluids injected and how the point of injection relates to an underground source of drinking water.

Class I - Wells injecting hazardous or non-hazardous waste below the lowermost underground source of drinking water.
Class II - Wells injecting fluids into an underground source of drinking water, associated with oil and gas production.
Class III - Wells injecting fluids into an underground source of drinking water, for the purpose of mineral extraction.
Class IV - Wells injecting hazardous or radioactive waste into or above an underground source of drinking water.
Class V - All injection wells injecting wastes into or above an underground source of drinking water, not covered by Classes I through IV.

NOTE: Class I and IV wells are prohibited in Nevada.

For an example of a Class V injection well, see the illustration to the right.

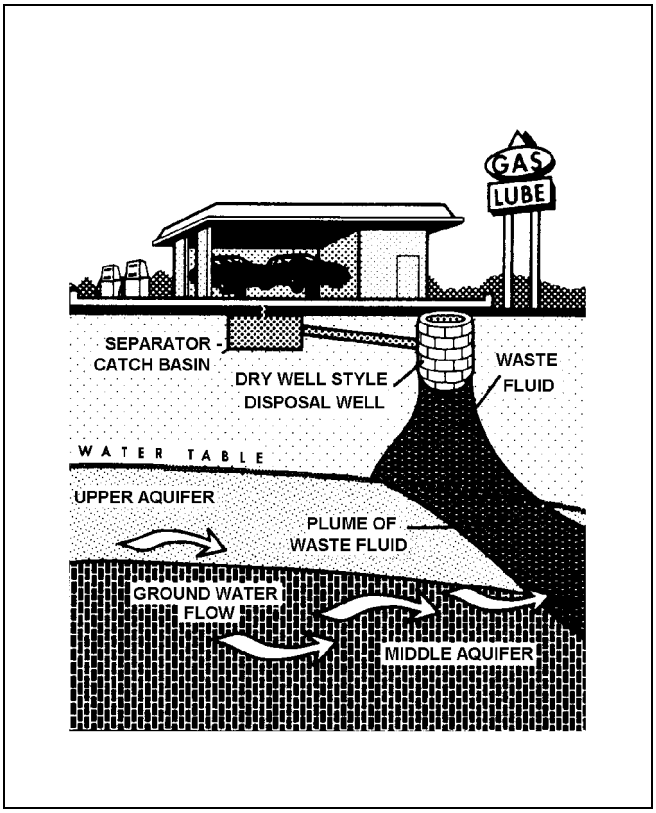
What are Class V Injection Wells?

Most Class V wells are "low tech" holes in the ground, although a few are technologically advanced wastewater disposal systems used by industry. Because Class V wells are located almost anywhere people are and because of their simple construction, the threat to ground water contamination is potentially great. It is important to control what goes into these wells. Some examples of Class V wells include:

- sump and separator systems in service station repair bays that discharge to dry wells or leach lines;
- septic systems used for discharge of industrial, commercial, and sanitary wastewater into shallow dry wells or leach lines;
- dry wells designed for drainage of stormwater from industrial and commercial areas;
- drainage wells;
- geothermal or space heating reinjection wells;
- domestic wastewater disposal wells;
- industrial, commercial and utility disposal wells;
- dewatering wells;
- ground water recharge wells; and
- car wash disposal wells (grates in car washes).

Some examples of facilities that can potentially use or have a Class V well include:

- lawn care establishments (equipment and truck washing);
- furniture refinishing establishments;
- print shops and silk screening establishments; and
- medical services facilities (labs, X-rays, clinics, etc.).



MAY 1995

What is in the waste fluids injected by Class V wells?

Several organic and inorganic wastes are routinely disposed into shallow injection wells. Many of these wastes may be hazardous, and it is a violation of federal law to dispose of them into the ground. Typical wastes generated and discharged into wells at certain types of facilities include the following examples:

Vehicle Service and Repair Facilities
- waste oil and lubricants
- spent solvents
- used anti-freeze
- lead battery acid

Vehicle Paint and Body Shops
- paint thinners and reducers
- spilled or old paint
- paint sludges
- waste oil and fluids

Metal Finishing Facilities
- industrial sludge
- spent plating baths
- spent cleaning solutions
- degreasing solvents

Electronics Manufacturing
- industrial waste sludge
- chromium and lead
- electroplating baths
- equipment cleaning materials

Photographic Processing
- prebath and bleaches
- organic chemicals
- heavy metals
- organic neutralizers
- organic fixers

How does the State protect drinking water from Class V wells?

Class V wells in Nevada are regulated by State and local officials. State regulations prohibit Class V operators from endangering underground drinking water sources. In addition, the State requires all Class V owners and operators to submit inventory information.

How do I know if I have a Class V well?

If your workplace generates waste fluids other then sewage, and is not connected to a municipal sewer, find out where your liquid wastes go. If they go into an on-site septic system, dry well, or drainage hole, you have a Class V disposal well which may endanger your drinking water supply.

Ask yourself:
- Do I have equipment or vehicle washdown areas?
- What chemicals do I use in my work?
- What chemicals do I use for cleaning? Degreasers?
- Does stormwater runoff from my parking lot drain to a dry well or to a city storm system?

NOTE: Only sanitary sewage can be disposed to a septic tank. Commercial and industrial wastewater must be treated prior to subsurface disposal.

What do I do if I have a Class V well?

If you believe you have a Class V well, other than a domestic septic system, contact the Nevada Division of Environmental Protection (NDEP), Underground Injection Control (UIC) Program. NDEP can provide information on how to comply with inventory requirements and other regulatory procedures. NDEP can also provide technical advice on alternative methods of dealing with waste fluids. Also, follow these guidelines:
- Stop discharging industrial wastes to your injection well immediately.
- Temporarily seal the floor drain or other means of wastewater entry to the injection well.
- Eliminate the wastewater, if possible. If it is not possible to eliminate it entirely, minimize its volume through recycling, improved housekeeping, use of less material or chemicals, use of environmentally friendly products or other means. Provide employee education and training in pollution prevention methods.
- No toxic materials are allowed to be discharged. Eliminate toxicity through recycling.
- Route all wastewater to a municipal wastewater treatment facility, if available, and if it will accept your waste.
- If the above is not possible, route the waste to a tank or container for proper accumulation and disposal.

NOTE: Disposal of any fluid containing a pollutant into an injection well requires a UIC permit.

How can I get more Information?

If you would like to obtain more information about underground injection wells, contact the Bureau of Water Pollution Control (ext. 3146), at the Nevada Division of Environmental Protection (702) 687-4670 or (800) 992-0900, (ext. 4670).

If you are interested in finding out more about protecting your ground water, or if you have any other water quality questions, you can contact the Bureau of Water Quality Planning, at (702) 687-4670, extension 3088.