

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
CLASS V INJECTION WELL TYPES**

**Well
Code**

Name of Well Type and Description

MINERAL and FOSSIL FUEL RECOVERY RELATED WELLS

- 5X13 Mining, Sand or Other backfill wells - used to inject a mixture of water and sand, mill tailings, and other solids into mined out portions of subsurface mines, whether what is injected is a radioactive waste or not. Also includes special wells used to control mines fires and acid drainage wells.
- 5X14 Solution Mining Wells - used for in-situ solution mining in conventional mines, such as stopes leaching.
- 5X15 In-situ Fossil Fuel Recovery Wells - used for in-situ recovery of coal, lignite, oil shale, and tar sands.
- 5X16 Spent-Brine Return Flow Wells - used to reinject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.

INDUSTRIAL/COMMERCIAL/UTILITY DISPOSAL WELLS

- 5A19 Cooling Water Return Flow Wells - used to inject water which was used in a cooling process, both open and closed loop processes.
- 5W20 Industrial Process Waste and Waste Disposal Wells - used to dispose of a wide variety of wastes and wastewaters from industrial, commercial, or utility processes. Industries include refineries, chemical plants, smelters, pharmaceutical plants, Laundromats and dry cleaners, tanneries, carwashes, laboratories, etc. Industry and waste stream must be specified (e.g. Petroleum Storage Facility - storage tank condensation water; Electric Power Generation Plant - mixed waste stream of laboratory drainage, fireside water, and boiler blowdown; Car Wash - mixed waste stream of detergent, oil and grease and paved area washdown; Electroplating Industry - spent solvent wastes; etc.).
- 5X28 Automobile Service Station Disposal Wells - repair bay drains connected to a disposal well. Suspected of disposal of dangerous or toxic wastes.

OIL FIELD PRODUCTION WASTE DISPOSAL WELLS

- 5X17 Air Scrubber Waste Disposal Wells - inject wastes from air scrubbers used to remove sulfur from crude oil which is burned in steam generation for thermal oil recovery projects. (If injection is used directly for enhanced recovery and not just disposal it is a Class II well.)
- 5X18 Water Softener Regeneration Brine Disposal Wells - inject regeneration wastes from water softeners which are used to improve the quality of brines used for enhanced recovery. (If injection is used directly for enhanced recovery and not just disposal it is a Class II well.)

MISCELLANEOUS WELLS

- 5X24 Radioactive Waste Disposal Wells - all radioactive waste disposal wells other than Class IV wells.
- 5X25 Experimental Technology Wells - wells used in experimental or unproven technologies such as pilot scale in_situ solution mining wells in previously unmined areas.
- 5X26 Aquifer Remediation Related Wells - wells used to prevent, control, or remediate aquifer pollution, including but not limited to Superfund sites.
- 5X29 Abandoned Drinking Water Wells - used for disposal of waste.
- 5X27 Other Wells - any other unspecified Class V wells. Well type and purpose, and a description of the injected fluids must be specified.

DRAINAGE WELLS (a.k.a. DRY WELLS)

- 5F1 Agricultural Drainage Wells - receive irrigation tailwaters, other field drainage, animal yard, feedlot or dairy runoff, etc.

- 5D2 Storm Water Drainage Wells - receive storm water runoff from paved areas, including parking lots, streets, residential subdivisions, building roofs, highways, etc.
- 5D3 Improved Sinkholes - receive storm water from developments located in karst topographic areas.
- 5D4 Industrial Drainage Wells - wells located in industrial areas which primarily receive storm water runoff but are susceptible to spills, leaks, or other chemical discharges.
- 5G30 Special Drainage Wells - used for disposing water from sources other than direct precipitation. Four types were reported: Landslide control drainage wells (Montana), Potable water tank overflow drainage wells (Idaho), Swimming pool drainage wells (Florida), and Lake level control drainage wells (Florida).

GEOTHERMAL REINJECTION WELLS

- 5A5 Electric Power Reinjection Wells - reinject geothermal fluids used to generate electric power - deep wells.
- 5A6 Direct Heat Reinjection Wells - reinject geothermal fluids used to provide heat for large buildings or developments - deep wells.
- 5A7 Heat Pump/Air Conditioning Return Flow Wells - reinject groundwater used to heat or cool a building in a heat pump system - shallow wells.
- 5A8 Groundwater Aquaculture Return Flow Wells - reinject groundwater or geothermal fluids used to support aquaculture. Non-geothermal aquaculture disposal wells are also included in this category (e.g. Marine aquariums in Hawaii use relatively cool sea water).

DOMESTIC WASTEWATER DISPOSAL WELLS

- 5W9 Untreated Sewage Waste Disposal Wells - receive raw sewage wastes from pumping trucks or other vehicles which collect such wastes from single or multiple sources. (No treatment)
- 5W10 Cesspools - including multiple dwelling, community, or regional cesspools, or other devices that receive wastes and which must have an open bottom and sometimes have perforated sides. Must serve greater than 20 persons per day if receiving solely sanitary wastes. (Settling of solids)
- 5W11 Septic Systems (Undifferentiated Disposal Method) - used to inject the waste or effluent from multiple dwelling, business establishments, community, or regional business establishments septic tank. Must serve greater than 20 persons per day if receiving solely sanitary wastes. (Primary treatment)
- 5W31 Septic System (Well Disposal Method) - examples of wells include actual wells, seepage pits, cavitettes, etc. The largest surface dimension is less than or equal to the depth dimension. Must serve greater than 20 persons per day if receiving solely sanitary waste. (Less treatment per square area than 5W32)
- 5W32 Septic System (Drainfield Disposal Method) - examples of drainfields include drain or tile lines, and trenches. Must serve more than 20 persons per day if receiving solely sanitary wastes. (More treatment per square area than 5W31)
- 5W12 Domestic Wastewater Treatment Plant Effluent Disposal Wells - dispose of treated sewage or domestic effluent from small package plants up to large municipal treatment plants. (Secondary or further treatment)

RECHARGE WELLS

- 5R21 Aquifer Recharge Wells - used to recharge depleted aquifers and may inject fluids from a variety of sources such as lakes, streams, domestic wastewater treatment plants, other aquifers, etc.
- 5R22 Saline Water Intrusion Barrier Wells - used to inject water into fresh water aquifers to prevent intrusion of salt water into fresh water aquifers.
- 5R23 Subsidence Control Wells - used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with overdraft of fresh water and not used for the purpose of oil or natural gas production.