



**SUBCLASSES OF CLASS 5 INJECTION WELLS**

EPA Well Code	Name and Description of Well Type	Potential Contaminants	GW Contam. Potential*
<b>DRAINAGE WELLS (A.K.A. DRYWELLS)</b>			
5D2	<b>Storm Water Drainage Wells</b> - receive storm water runoff from paved areas, including parking lots, streets, residential subdivisions, building roofs, highways, etc. Could be used for aquifer recharge.	Heavy Metals (Cu, Pb, Zn), Organics, High levels of coliform bacteria. Contaminants from streets, roofs, landscaped areas. Herbicides, Pesticides.	M
5D4	<b>Industrial Drainage Wells (stormwater)</b> - wells located in industrial areas that primarily receive storm water runoff but are susceptible to spills, leaks, or other chemical discharge.	Usually organic solvents, Acids, Pesticides, and Various other industrial waste constituents. Similar to Storm Water Drainage Wells but higher concentrations.	M - H
5F1	<b>Agricultural Drainage Wells</b> - receive irrigation tail waters, other field drainage, animal yard, feedlot, or dairy runoff, etc.	Pesticides, Nutrients, Pathogens, Metals transported by sediments, Salts.	H
5G30	<b>Special Drainage Wells</b> - used for disposing of water from sources other than direct precipitation. Examples include: landslide control drainage wells, potable water tank overflow drainage wells, swimming pool drainage wells, and lake level control drainage wells.	Chlorinated and treated water, pH imbalance, Algicides, Fungicides, Muriatic Acid.	L - M
<b>GEOHERMAL RE-INJECTION WELLS</b>			
5A5	<b>Electric Power Re-Injection Wells</b> - re-inject geothermal fluids used to generate electric power - deep wells	pH imbalance, Mineral and Metals in solution (As, B, Se), Sulfates	M
5A6	<b>Direct Heat Re-Injection Wells</b> - re-inject geothermal fluids used to provide heat for large buildings or developments - deep wells.	Hot geothermal brines with TDS between 2,000 and 325,000 mg/l. Co, CaSO <sub>4</sub> , Sr, Ba, and As.	M
5A7	<b>Heat Pump / Air Conditioning Return Flow Wells</b> - re-inject groundwater used to heat or cool a building in a heat pump system - shallow wells. Closed loop systems are NOT UIC-regulated systems.	Potable water with temperatures ranging from 90° to 110°F, may have scale or corrosion inhibitors.	L
5A8	<b>Ground Water Aquaculture Return Flow Wells</b> - re-inject ground water or geothermal fluids used to support aquaculture. Non-geothermal aquaculture disposal wells are also included in this category.	Used geothermal water which may be highly mineralized and include traces of As, B, F, TDS, and TSS; Animal detritus, Perished animals, Bacteria.	M
<b>DOMESTIC WASTEWATER DISPOSAL WELLS</b>			
5W9	<b>Untreated Sewage Waste Disposal Wells</b> - receive raw sewage wastes from pumping trucks or other vehicles which collect such wastes from single or multiple sources. (No treatment) <b>- BANNED in NEVADA -</b>	Soluble organic and inorganic compounds including household chemicals. Raw sewage with 99.9% water and 0.03% suspended solids. May contain pathogenic bacteria, viruses, nitrates, ammonia.	H
5W10	<b>Large Capacity Cesspools</b> - 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 have capacity of 5,000 gallons if receiving	Soluble organic and inorganic compounds including household chemicals. Raw sewage with 99.9% water and 0.03% suspended solids. May contain pathogenic bacteria,	H

	solely sanitary wastes. (Settling of solids) - <b>BANNED Nationally</b> - <b>NOTE: all cesspools are prohibited in Nevada</b>	viruses, nitrates, ammonia.	
5W11	<b>Septic Systems (Undifferentiated Disposal Method)</b> - used to inject waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank. Must have capacity of 5,000 gallons if receiving solely sanitary wastes. (Primary treatment)	Varies with type of system: fluids typically 99.9% water (by weight) and 0.03% suspended solids: major constituents include nitrates, chlorides, sulfates, sodium, calcium, and fecal coliform.	L - H
5W31	<b>Septic Systems (Well Disposal Method)</b> - examples include actual wells, seepage pits, cavitettes, etc. The largest surface dimension is less than or equal to the depth dimension. Must have capacity of 5,000 gallons if receiving solely sanitary wastes. - <b>BANNED in NEVADA</b> -	Varies with type of system: fluids typically 99.9% water (by weight) and 0.03% suspended solids: major constituents include nitrates, chlorides, sulfates, sodium, calcium, and fecal coliform.	L - H
5W32	<b>Septic Systems (Drainfield Disposal Method) Large-capacity Septic System</b> - examples of drainfields include leach and drain fields, and other engineered fields. Must have capacity of 5,000 gallons if receiving solely sanitary wastes. (More treatment per area than 5W31)	Varies with type of system: fluids typically 99.9% water (by weight) and 0.03% suspended solids: major constituents include nitrates, chlorides, sulfates, sodium, calcium, and fecal coliform.	L - H
5W12	<b>Domestic Wastewater Treatment Plant Effluent Disposal and Recharge Wells</b> - dispose of treated sewage or domestic effluent from small package plants up to large municipal treatment plants. (Secondary or further treatment)	Lower levels of organics and bacteria than other septic systems and cesspools.	L - H
<b>MINERAL AND FOSSIL FUEL RECOVERY RELATED WELLS</b>			
5X13	<b>Mining, Sand or Other Backfill Wells</b> - 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 mine fires and acid mine drainage wells.	Acidic waters	M
5X14	<b>Solution Mining Wells</b> - used for in-situ solution mining in conventional mines, such as stopes leaching.	2.4% sulfuric acid, pH less than 2 for copper and ferric cyanide solution for gold and silver.	L - M
5X15	<b>In-Situ Fossil Fuel Recovery Wells</b> - used for in-situ recovery of coal, lignite, oil shale, and tar sands.	Steam, air, solvents, igniting agents.	M
5X16	<b>Spent-Brine Return Flow Wells</b> - used to re-inject spent brine into the same formation from which it was drawn after extraction of halogens or their salts.	Variable	L
<b>INDUSTRIAL / COMMERCIAL / UTILITY DISPOSAL WELLS</b>			
5A19	<b>Cooling Water Return Flow Wells</b> - used to inject water that was used in a cooling process, both open and closed loop processes.	Anti-sealing additives, thermal pollution, potential for industrial spills reaching ground water.	L - M
5W20	<b>Industrial Process Water and Waste Disposal Wells</b> - 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 blow down; Car Wash - Mixed waste stream of detergent, oil and grease, and paved area washdown; Electroplating Industry - spent solvent wastes, etc.)	Potentially any fluid disposed by various industries; Suspended solids; Alkalinity; Sulfate; Volatile Organic Compounds.	H

5X28	<p><b>Motor Vehicle Waste Disposal Wells</b> - repair bay drains connected to a disposal well. Suspected of disposal of dangerous or toxic wastes. Includes disposal wells at all facilities that perform motor vehicle repair and maintenance (for boat, airplane, bus, tractor, etc.)</p> <p align="center"><b>--New construction after 2000 BANNED --</b></p>	<p>Heavy Metals; Solvents; Cleaners; Used Oil and Fluids; Detergents; Organic Compounds.</p>	H
<b>RECHARGE WELLS</b>			
5R33	<p><b>Aquifer Storage and Recovery</b> - used to storage and recover water from the same well or well field</p>	<p>Variable: water is generally of good quality</p>	L - M
5R21	<p><b>Aquifer Recharge Wells</b> - used to recharge depleted aquifers and may inject fluids from sources such as lakes, rivers, streams, other aquifers, etc.</p>	<p>Variable: water is generally of good quality.</p>	L - H
5B22	<p><b>Saline Water Intrusion Barrier Wells</b> - used to inject water into fresh water aquifers to prevent intrusion of salt water into fresh water aquifers.</p>	<p>Variable: advanced treated sewage, surface urban and agricultural runoff, and imported surface waters.</p>	L
5S23	<p><b>Subsidence Control Wells</b> - 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.</p>	<p>No specific type of injected fluid noted, similar to aquifer recharge wells.</p>	L
<b>MISCELLANEOUS WELLS</b>			
5N24	<p><b>Radioactive Waste Disposal Wells</b> - all radioactive waste disposal well other than Class IV wells.</p> <p align="center"><b>- BANNED in NEVADA -</b></p>	<p>Lcw-level radioactive wastes.</p>	Unk.
5X25	<p><b>Experimental Technology Wells</b> - used in experimental or unproven technologies such as pilot scale in-situ solution mining wells in previously unmined area.</p>	<p>Varies depending on project.</p>	L - M
5X26	<p><b>Aquifer Remediation Related Wells</b> - used to prevent, control, or remediate aquifer pollution, including but not limited to Superfund sites.</p>	<p>Nutrients used in biodegradation of organics, oil and grease, phenols, toluene.</p>	Unk.
5X29	<p><b>Abandoned Drinking Water Wells</b> - used for disposal of waste.</p> <p align="center"><b>- BANNED in NEVADA -</b></p>	<p>Potentially any kind of fluid, particularly brackish or saline water, hazardous chemicals and sewage.</p>	M
5X27	<p><b>Other Wells</b> - any other unspecified Class V wells: Well type / purpose and injected fluids must be specified.</p>	<p>Variable</p>	Unk.
<p>* Ground Water Contamination Potential: L = Low; M = Moderate; H = High; Unk. = Unknown</p>			
<p>Modified after Table 1-1 and Table 1-2 in <i>Report to Congress: Class V Injection Wells - Current Inventory; Effects on Ground Water; Technical Recommendations</i>, September 1987. Report Number: EPA 570/9-87-006.</p>			

Last Updated: 8 September 2015