

COMMISSIONER'S ORDER NO. 107 - 89

Natural Resources
Environmental

A Commissioner's Order establishing classification for injection wells within the jurisdiction of the Mille Lacs Band of Chippewa Indians.

WHEREAS, Band Statute 1032-MLC-1, Section 29 directs the Commissioner of Natural Resources to protect all natural resources of the Mille Lacs Band of Chippewa Indians, and

WHEREAS, ground water within the Mille Lacs Band's jurisdiction is a necessary and important natural resource, and

WHEREAS, the ground water constitutes a significant economic, health and welfare benefit to Mille Lacs Band members, and

WHEREAS, the Mille Lacs Aquifer is the sole source aquifer for drinking water for members of the Mille Lacs Band of Chippewa, and

WHEREAS, the Mille Lacs Band has classified the Mille Lacs Aquifer as the sole source aquifer for its drinking water, and

WHEREAS, the contamination of this ground water would have a tremendous impact on the economic, health, safety and welfare of Band members, and

WHEREAS, underground injection wells have been identified by United States Environmental Protection Agency as a potential method for contaminating , ground water, and

WHEREAS, there needs to be a clear definition of what constitutes underground injection wells and how to classify such wells.

NOW THEREFORE, by the authority vested in me by the Mille Lacs Band of Chippewa Indians under tribal law, I, Don Wedll, Commissioner of Natural Resources for the Mille Lacs Band of Chippewa Indians hereby prescribe the following definition and classification of underground injection wells.

UNDERGROUND INJECTION WELL PROGRAM

DEFINITION:

WELL means a bored, drilled, or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension.

WELL INJECTION means the sub-surface emplacement of fluids through a bored, drilled, or driven well: or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

UNDERGROUND INJECTION means a "well injection".

CLASSIFICATION

Class I.

- (1) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one quarter 1/4 mile of the well bore, an underground source of drinking water.
- (2) Other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water.

Class II. Wells which inject fluids:

- (1) Which are brought to the surface a connection with conventional oil or natural gas reproduction and may be co-mingled with waste waters from gas plants which are an integral part of production operation unless those waters are classified as a hazardous waste at the time of injection.
- (2) For enhanced recovery of oil or natural gas; and
- (3) For storage of hydrocarbons which are liquid at standard temperate and pressure.

(c) Class III. Wells which inject for extraction of minerals including:

- (1) Mining of sulfur by the Frasch process:
- (2) In-situ production of uranium or other metals. This category includes only in-situ production from ore bodies which have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.
- (3) Solution mining of salts or potash.

Class IV.

- (1) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into a formation which within one quarter mile of the well contains an underground source or drinking water.

- (2) Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste above a formation which within one quarter mile of the well contains an underground source of drinking water.
- (3) Wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to dispose of hazardous waste, (e.g., wells used to dispose of hazardous wastes into or above a formation which contains an aquifer which has been exempted).

Class V. Injection wells not included in Class I, II, III, or IV. Class V wells include:

- (1) Air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump:
- (2) Cesspools including multiple dwelling, community or regional cesspools or other devices that receive wastes which have an open bottom and sometimes have perforated sides. The UIC requirements do not apply to single family residential cesspools nor to non-residential cesspools which receive solely sanitary wastes and have the capacity to serve fewer than 20 person a day.
- (3) Cooling water return flow wells used to inject water previously used for cooling;
- (4) Drainage wells used to drain surface fluid, primarily storm runoff, into a sub-surface formation:
- (5) Dry wells used for the injection of water into a sub-surface formation:
- (6) Recharge wells used to replenish the water in an aquifer:
- (7) Salt water intrusion barrier wells used to inject water into fresh water aquifer to prevent the intrusion of salt water into the fresh water:
- (8) Sand backfill and other backfill wells used to inject a mixture of water and sand. Mill tailings or other solids into mined out portions of sub-surface mines whether what is injected is a radioactive waste or not.
- (9) Septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community or regional business establishment septic tank. The UIC requirements do not apply to single family residential septic system wells, nor to non-residential septic system wells which are used solely for the disposal of sanitary waste and have the capacity to serve fewer than 20 persons a day.
- (10) Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-metallic or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water.
- (11) Radioactive waste disposal wells other than Class IV:
- (12) Injection wells associate with the recovery of geothermal energy for heating, aquaculture, and production of electric power.
- (13) Wells used for solution mining of conventional mines such as stopes leaching:
- (14) Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts:
- (15) Injection wells used in experimental technologies.
- (16) Injection wells used for in siturecovery of lignite, coal, tar sands and oil shale.

CLASS V INJECTION WELL TYPES: name of well type and Description

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 runoff 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).

GEOHERMAL 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. Maine aquariums in Hawaii use relatively cool sea water).
- 5W9 Untreated Sewage Waste Disposal Wells - receive raw sewage wastes from pumping trucks or other vehicles which collect such waste 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 a multiple dwelling, business establishment, community, or regional business establishment septic tank. Must serve greater than 20 person per day if receiving solely sanitary wastes. (Primary Treatment)
- 5W31 Septic systems (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 wastes. (Less treatment per square area the 5W32)
- 5W32 Septic Systems (Drainfield Disposal Method) - examples of drainfields include drain or tile lines, and trenches. Must serve more that 20 person 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).

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 sub-surface 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.
- 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.

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 from 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 enhances recovery. (If injection is used directly for enhanced recovery and not just disposal it is a Class II well.)

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 Water 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.


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.
- 5B22 Saline Water Intrusion Barrier Wells - used to inject water into fresh water aquifers to prevent intrusion of salt water into fresh water aquifers.
- 5S23 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.

MISCELLANEOUS WELLS

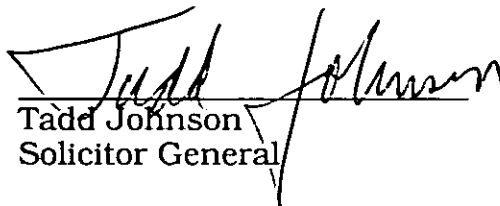
- 5M24 Radioactive Waste Disposal Wells - all radioactive waste disposal wells other than Class IV wells.
- 5X25 Experimental Technology Wells - wells used in experimental or unproven technologies such as pilot scale in-situ solution mining wells in previously unmined areas.
- 5X26 Aquifer Remediation 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 typed/purpose and injected fluids must be specified.

DATED at Vineland, Minnesota this eighteenth day of May in the year one thousand nine hundred and eighty-nine.



Don Wedll
Commissioner of Natural Resources

APPROVED AND NUMBERED AS TO
FORM AND EXECUTION



Tadd Johnson
Solicitor General

OFFICIAL SEAL OF THE BAND