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AUTHORITY: Implementing and authorized by Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55/8] and authorized by Section 27 of the Illinois Environmental Protection Act [415 ILCS 5/27].

SOURCE: Adopted in R89-14(B) at 15 Ill. Reg. 17614, effective November 25, 1991; amended in R89-14(C) at 16 Ill. Reg. 14667, effective September 11, 1992; amended in R93-27 at 18 Ill. Reg. 14084, effective August 24, 1994; amended in R96-18 at 21 Ill. Reg. 6518, effective May 8, 1997; amended in R97-11 at 21 Ill. Reg. 7869, effective July

1, 1997; amended in R01-14 at 26 Ill. Reg. 2662, effective February 5, 2002; amended in R08-18 at 36 Ill. Reg. 15206, effective October 5, 2012; amended in R08-18(B) at 37 Ill. Reg. 16529, effective October 7, 2013; amended in R22-18 at 49 Ill. Reg.3782, effective March 28, 2025.

SUBPART A: GENERAL

Section 620.105 Purpose

This Part specifies requirements, standards, and procedures for protecting and managing groundwater quality, including groundwater classification, nondegradation, and groundwater quality standards.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.110 Definitions

The definitions of the Environmental Protection Act [415 ILCS 5] and the Groundwater Protection Act [415 ILCS 55] apply to this Part. The following definitions also apply to this Part;

"Act" means the Environmental Protection Act [415 ILCS 5].

"Agency" means the Illinois Environmental Protection Agency.

"Aquifer" means saturated (with groundwater) soils and geologic materials that *are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients.* [415 ILCS 55/3(b)]

"BETX" means the sum of the concentrations of benzene, ethylbenzene, toluene, and xylenes.

"Board" means the Illinois Pollution Control Board.

"Carcinogen" means a contaminant that is classified as a Category A1 or A2 Carcinogen by the American Conference of Governmental Industrial Hygienists; or a Category 1 or 2A/2B carcinogen by the World Health Organization's International Agency for Research on Cancer; or a "Human carcinogen" or "Anticipated Human Carcinogen" by the United States Department of Health and Human Service National Toxicological Program; or a Category A or B1/B2 Carcinogen or as "carcinogenic to humans" or "likely to become carcinogenic to humans" *by the United States Environmental Protection Agency in Integrated Risk Information System or a Final Rule issued in a Federal Register notice by the USEPA.*

[415 ILCS 5/58.2]

"Chemical Abstracts Service Registry Number" or "CASRN" means a unique numerical identifier designated for only one substance, assigned by the Chemical Abstracts Service for the substance.

"Community water supply" means a public supply that *serves or is intended to serve at least 15 service connections used by residents or regularly serves at least 25 residents.* [415 ILCS 5/3.145]

"Contaminant" means any solid, liquid, or gaseous matter, any odor, or any form of energy, from whatever source. [415 ILCS 5/3.165]

"Corrective action process" means the procedures and practices that a regulatory agency may perform, require, or otherwise oversee, including corrective action and controls and management, to address a potential or existing violation of any Subpart D standard due to a release of one or more contaminants.
BOARD NOTE: This definition includes the performance of activities that, under Section 620.450(a)(3), stay the applicability of otherwise applicable standards specified in Section 620.410, 620.420, 620.430, or 620.440. This definition also includes the implementation of controls and management, under Section 620.250(d)(2) and (e), after the completion of corrective action.

"Cumulative impact area" means the area, including the coal mine area permitted under the Surface Coal Mining Land Conservation and Reclamation Act [225 ILCS 720] and 62 Ill. Adm. Code 1700 through 1850, within which impacts resulting from the proposed operation may interact with the impacts of all anticipated mining on surface water and groundwater systems.

"Detection" means the identification of a contaminant in a sample at a value equal to or greater than the:

"Method detection limit" or "MDL"; or

"Lower limit of quantitation" or "LLOQ".

"Groundwater" means underground water that *occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure.* [415 ILCS 5/3.210]

"Hydrologic balance" means the relationship between the quality and quantity of water inflow to, water outflow from, and water storage in a hydrologic unit, such as a drainage basin, aquifer, soil zone, lake, or

reservoir. It encompasses the dynamic relationships among precipitation, runoff, evaporation, and changes in ground and surface water storage.

"IGPA" means the Illinois Groundwater Protection Act. [415 ILCS 55].

"Lower limit of quantitation" or "LLOQ" means the minimum concentration of a substance that can be measured or reported under "Test Methods of Evaluation Solid Wastes, Physical/Chemical Methods", incorporated by reference in Section 620.125.

"Lowest concentration minimum reporting level" or "LCMRL" means the lowest spiking concentration such that the probability of spike recovery in the 50% or 150% range is at least 99%.

"Lowest observable adverse effect level" or "LOAEL" means the lowest tested concentration of a chemical or substance that produces a statistically significant increase in frequency or severity of non-overt adverse effects between the exposed population and its appropriate control. -

"Licensed Professional Engineer" or "LPE" *means a person, corporation, or partnership licensed under the laws of the State of Illinois to practice professional engineering.* [415 ILCS 5/57.2]

"Licensed Professional Geologist" or "LPG" *means an individual who is licensed under the* Professional Geologist Licensing Act *to engage in the practice of professional geology in Illinois.* [225 ILCS 745/15]

"Method detection limit" or "MDL" means the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results as determined under 40 CFR 136, appendix B (2017), incorporated by reference in Section 620.125.

"Mutagen" means a carcinogen that can induce an alteration in the structure of DNA.

"No observable adverse effect level" or "NOAEL" means the highest tested concentration of a chemical or substance that does not produce a statistically significant increase in frequency or severity of non-overt adverse effects between the exposed population and its appropriate control.

"Non-community water supply" means a public water supply that is not a community water supply. [415 ILCS 5/3.145]

"Off-site" means not on-site.

"On-site" means on the same or geographically contiguous property that may be divided by public or private right-of-way, if the entrance and exit between properties is at a crossroads intersection and access is by crossing as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way that he or she controls and that the public does not have access to is also considered on-site property.

"Operator" means the person responsible for the operation of a site, facility, or unit.

"Owner" means the person who owns a site, facility, or unit, or part of a site, facility, or unit, or who owns the land on which the site, facility, or unit is located.

"Potable" means generally fit for human consumption in compliance *with accepted water supply principles and practices.* [415 ILCS 5/3.340]

"Potential primary source" means any unit at a facility or site not currently subject to a removal or remedial action that*:*

> *Is* used *for the treatment, storage, or disposal of any hazardous or special waste not generated at the site; or*
>
> *Is* used *for the disposal of municipal waste not generated at the site, other than landscape waste and construction and demolition debris; or*
>
> *Is* used *for the landfilling, land treating, surface impounding, or piling of any hazardous or special waste that is generated on the site or at other sites owned, controlled, or operated by the same person; or*
>
> *Stores or accumulates at any time more than 75,000 pounds above ground, or more than 7,500 pounds below ground, of any hazardous substances.* [415 ILCS 5/3.345]

"Potential route" means abandoned and improperly plugged wells of all kinds, drainage wells, all injection wells, including closed loop heat pump wells, and any excavation for the discovery, development or production of stone, sand, or gravel. This term does not include closed loop heat pump wells using USP (U.S. Pharmacopeia) *food grade propylene glycol.* [415 ILCS 5/3.350]

"Potential secondary source" means any unit at a facility or a site not

currently subject to a removal or remedial action, other than a potential primary source, that:

> *Is* used *for the landfilling, land treating, or surface impounding of waste that is generated on the site or at other sites owned, controlled, or operated by the same person, other than livestock and landscape waste, and construction and demolition debris; or*
>
> *Stores or accumulates at any time more than 25,000 but not more than 75,000 pounds above ground, or more than 2,500 but not more than 7,500 pounds below ground, of any hazardous substance; or*
>
> *Stores or accumulates at any time more than 25,000 gallons above ground, or more than 500 gallons below ground, of petroleum, including crude oil or any fraction* of crude oil that *is not otherwise specifically listed or designated as a hazardous substance; or*
>
> *Stores or accumulates pesticides, fertilizers, or road oils for commercial application or for distribution to retail sales outlets; or*
>
> *Stores or accumulates at any time more than 50,000 pounds of any de-icing agent; or*
>
> *Is* used *for handling livestock waste or for treating domestic wastewaters other than private sewage disposal systems as defined in the Private Sewage Disposal Licensing Act* [225 ILCS 225]. [415 ILCS 5/3.355]

"Previously mined area" means land disturbed or affected by coal mining operations before February 1, 1983.
BOARD NOTE: February 1, 1983, is the effective date of the Illinois Department of Natural Resources Permanent Program regulations (62 Ill. Adm. Code 1800 through 1850) implementing the Surface Coal Mining Land Conservation and Reclamation Act [225 ILCS 720], as specified in 62 Ill. Adm. Code 1700.11(c).

"Property class" means the class assigned by a tax assessor to real property for real estate taxes.
BOARD NOTE: The property class (rural property, residential vacant land, residential with dwelling, commercial residence, commercial business, commercial office, or industrial) is identified on the property record card maintained by the tax assessor in compliance with the Illinois Real Property Appraisal Manual (February 1987), published by the Illinois

Department of Revenue, Property Tax Administration Bureau.

"Public water supply" means all mains, pipes, and structures through which water is obtained and distributed to the public, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, and *storage tanks and appurtenances, collectively or severally, actually used or intended for use for furnishing water for drinking or general domestic use, and that serve at least 15 service connections or that regularly serve at least 25 persons at least 60 days per year. A public water supply is either a "community water supply" or a "non-community water supply".* [415 ILCS 5/3.365]

"Regulated entity" means a facility or unit regulated for groundwater protection by any State or federal agency.

"Regulated recharge area" means a compact geographic area, as determined by the Board under Section 17.4 of the Act, *the geology of which renders a potable resource groundwater particularly susceptible to contamination.* [415 ILCS 5/3.390]

"Regulatory agency" means the Illinois Environmental Protection Agency, Department of Public Health, Department of Agriculture, the Office of Mines and Minerals and the Office of Oil and Gas Resource Management in the Department of Natural Resources, and the Office of State Fire Marshal.

"Resource groundwater" means groundwater that is presently being, or in the future is capable of being, put to beneficial use by reason of being of suitable quality. [415 ILCS 5/3.430]

"Saturated zone" means a subsurface zone in which all the interstices or voids are filled with water under pressure greater than that of the atmosphere.

"Setback zone" means a geographic area, designated under the *Act, containing a potable water supply well or a potential source or potential route having a continuous boundary, and within which* specified *prohibitions or regulations* apply *to protect groundwaters.* [415 ILCS 5/3.450]

"Site" means any location, place, tract of land, and facilities, including buildings and improvements used for purposes subject to regulation or control by the Act or regulations under the Act. [415 ILCS 5/3.460]

"Spring" means a natural surface discharge of an aquifer from rock or soil.

"Threshold dose" means the lowest dose of a chemical at which a specified measurable effect is observed and below which it is not observed.

"Treatment" means the technology, treatment techniques, or other procedures for compliance with 35 Ill. Adm. Code, Subtitle F.

"Unit" means any device, mechanism, equipment, or area (exclusive of land used *only for agricultural production). This term includes secondary containment structures and their contents at agrichemical facilities*. [415 ILCS 5/3.515]

"USEPA" means the United States Environmental Protection Agency.

"Wellhead protection area" or "WHPA" means the surface and subsurface recharge area surrounding a community water supply well or well field, delineated outside of any applicable setback zones under Section 17.1 of the Act [415 ILCS 5/17.1] and Illinois' Wellhead Protection Program, through which contaminants are reasonably likely to move toward that well or well field.

"Wellhead Protection Program" or "WHPP" means the wellhead protection program for the State of Illinois, approved by USEPA under 42 U.S.C. 300h-7.
BOARD NOTE: Derived from 40 CFR 141.71(b) (2003). The wellhead protection program includes the "groundwater protection needs assessment" under Section 17.1 of the Act [415 ILCS 5/17.1] and 35 Ill. Adm. Code 615-617.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.115 Prohibition

A person must not cause, threaten, or allow a violation of the Act, the IGPA, or regulations adopted by the Board under either statute, including this Part.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.125 Incorporations by Reference

a) The Board incorporates the following material by reference:

ASTM International. 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959 (610) 832-9500.

"Standard Practice for Classification of Soils for

Engineering Purposes (Unified Classification System)" ASTM D2487-06.

"Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent, and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) ASTM D7979-20.

CFR (Code of Federal Regulations). Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202) 783-3238.

Method Detection Limit Definition, appendix B to Part 136, 40 CFR 136, appendix B – Revision 2 (82 FR 40939, Aug. 28, 2017).

Control of Lead and Copper, general requirements, 40 CFR 141.80 (72 FR 57814, Oct. 10, 2007).

Maximum contaminant levels for organic contaminants, 40 CFR 141.61 (59 FR 34324, July 1, 1994).

Maximum contaminant levels for inorganic contaminants, 40 CFR 141.62 (69 FR 38855, June 29, 2004).

Maximum contaminant levels for radionuclides, 40 CFR 141.66 (65 FR 76748, Dec. 7, 2000).

GPO. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20401 (202) 783-3238.

USEPA Guidelines for Carcinogenic Risk Assessment, 51 Fed. Reg. 33992-34003 (September 24, 1986).

Illinois Environmental Protection Agency, 2520 W. Iles Ave., P.O. Box 19276, Springfield, IL 62794-9276 (217) 785-4787.

"Guidance Document for Groundwater Protection Needs Assessments", Agency, Illinois State Water Survey, and Illinois State Geologic Survey Joint Report, January 1995.

"Illinois Integrated Water Quality Report and Section 303(d) List, 2020/2022", Agency, June 2022.

"The Illinois Wellhead Protection Program Pursuant to Section 1428 of the Federal Safe Drinking Water Act", Agency, # 22480, October 1992.

Illinois Pollution Control Board, 60 E. Van Buren, Suite 630, Chicago, IL 60605 (312) 814-3669.

"Class III Groundwater Listing Notice Fogelpole Cave Nature Preserve", Environmental Register, No. 587, May 2003.

"Class III Groundwater Listing Notice Pautler Cave Nature Preserve and Stemler Cave Nature Preserve", Environmental Register, No. 611, May 2005.

"Class III Groundwater Listing Notice Armin Kruger Speleological Area", Environmental Register, No. 666, Dec. 2009.

"Class III Groundwater Listing Notice Cotton Creek Marsh Nature Preserve and Spring Grove Fen Nature Preserve", Environmental Register, No. 697, July 2012.
BOARD NOTE: The Environmental Register is a Board publication available on the Board's website at https://pcb.illinois.gov/Resources/EnvironmentalRegister.

NAS National Academy of Sciences, Engineering, and Medicine, 500 5th St. NW, Washington DC, 20001 (202) 334-2000.

"Water Quality Criteria 1972", EPA.R3.73-033, 1973. https://nepis.epa.gov

NCRP. National Council on Radiation Protection, 7910 Woodmont Ave., Bethesda, MD (301) 657-2652.

"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure", NCRP Report Number 22, June 5, 1959.

USEPA, 1200 Pennsylvania Avenue, N. W., Washington DC, 20460 (202) 564-4700

"Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells", EPA Publication EQASOP-GW4,

Region 1 Low-Stress (low flow) SOP Revision No. 4, July 30, 1996; revised September 19, 2017.

"Methods for Chemical Analysis of Water and Wastes", March 1983, Doc. No. PB84-128677. EPA 600/4-79-020 (available online at http://nepis.epa.gov/).

"Methods for the Determination of Inorganic Substances in Environmental Samples", August 1993, PB94-120821 (referred to as "USEPA Environmental Inorganic Methods"). EPA 600/R-93-100 (available online at http://nepis.epa.gov/).

"Methods for the Determination of Metals in Environmental Samples", June 1991, Doc. No. PB91-231498. EPA 600/4-91-010 (available online at http://nepis.epa.gov/).

"Methods for the Determination of Metals in Environmental Samples − Supplement I", May 1994, Doc. No. PB95-125472. EPA 600/R-94-111 (available online at http://nepis.epa.gov/).

"Methods for the Determination of Organic Compounds in Drinking Water", Doc. No. PB91-231480. EPA/600/4-88/039 (December 1988 (revised July 1991)) (available online at http://nepis.epa.gov/).

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement I", Doc. No. PB91-146027. EPA/600/4-90/020 (July 1990) (available online at http://nepis.epa.gov/).

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement II", Doc. No. PB92-207703. EPA/600/R-92/129 (August 1992) (available online at http://nepis.epa.gov/).

"Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", Doc. No. PB95-261616. EPA/600/R-95/131 (August 1995) (available online at http://nepis.epa.gov/).

"Methods for the Determination of Organic and Inorganic Compounds in Drinking Water" Volume I: EPA 815-R-00-

014 (August 2000) (available online at http://nepis.epa.gov/).

"Prescribed Procedures for Measurement of Radioactivity in Drinking Water", Doc. No. PB80-224744. EPA 600/4-80-032, (August 1980) (available online at http://nepis.epa.gov/).

"Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", H.L. Krieger and S. Gold, Doc. No. PB222-154/7BA. EPA-R4-73-014, May 1973.

"Radiochemical Analytical Procedures for Analysis of Environmental Samples", March 1979, Doc. No. EMSL LV 053917.

"Radiochemistry Procedures Manual", Doc. No. PB-84-215581. EPA-520/5-84-006, December 1987.

"Selected Analytical Methods for Environmental Remediation and Recovery (SAM) 2017". Record last revision date February 10, 2020. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NHSRC&dirEntryId=339252.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA Publication No. SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI Phase 1 (2017), VI Phase 2 (2018), VI Phase 3 (2019), and VII Phase 1 (2020). http://www.epa.gov/hw-sw846/sw-846-compendium.

USEPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division.

"Method 533: Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry", November 2019. https://www.epa.gov/sites/default/files/2019-12/documents/method-533-815b19020.pdf.

USEPA, Office of Research and Development, Center for Environmental Solutions & Emergency Response

Shoemaker, J. and Dan Tettenhorst, Method 537.1: Determination of selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass spectrometry (LC/MS/MS). U.S. Environmental Protection Agency, Office of Research and Development, Center for Environmental Assessment, Washington, DC. Version 2.0, March 2020.

USEPA, Office of Resource Conservation and Recovery.

"Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, (March 2009 Unified Guidance)", EPA 530/R-09-007.

USEPA, Office of Water, Engineering and Analysis Division

USEPA, Office of Water, Engineering and Analysis Division. “Method 1633: Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS", January 2024, EPA 821-R-24-001.

USEPA, Risk Assessment forum, Washington, D.C.

"A Review of the Reference Dose and References Concentration Process", EPA/630/P-02/002F, December 2002.

"Guidance for Applying Quantitative Data to Develop Data-Derived Extrapolation Factors for Interspecies and Intraspecies Extrapolation", EPA/R-14/002F, September 2014.

"Guidelines for Carcinogen Risk Assessment", EPA/630/P-03/001F, March 2005.

"Supplemental Guidance for Assessing Susceptibility for Early-Life Exposure to Carcinogens", EPA/630/R-03/003F, March 2005.

United States Geological Survey, 1961 Stout St., Denver, CO 80294 (303) 844-4169

"Techniques of Water Resources Investigations of the

United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents", Book I, Chapter D2 (1976).

b) This Section incorporates no later editions or amendments.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.130 Exemption from General Use Standards and Public and Food Processing Water Supply Standards

Groundwater is not required to meet the general use standards and public and food processing water supply standards of 35 Ill. Adm. Code 302.Subparts B and C.

Section 620.135 Exclusion for Underground Waters in Certain Man-Made Conduits

This Part does not apply to underground waters contained in man-made subsurface drains, tunnels, reservoirs, storm sewers, tiles or sewers.

SUBPART B: GROUNDWATER CLASSIFICATION

Section 620.201 Groundwater Designations

All groundwaters of the State are designated as:

a) One of the following four classes of groundwater under Sections 620.210 through 620.240:

1) Class I: Potable Resource Groundwater;

2) Class II: General Resource Groundwater;

3) Class III: Special Resource Groundwater; or

4) Class IV: Other Groundwater;

b) A groundwater management zone established under Section 620.250; or

c) A groundwater management zone under 35 Ill. Adm. Code 740.530. See Section 620.250(h)-(j).

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.210 Class I: Potable Resource Groundwater

Except as provided in Section 620.230, 620.240, or 620.250, Potable Resource Groundwater is as described in subsection (a) or (b):

a) Groundwater that is 10 feet or more below the land surface and within:

1) The minimum setback zone of a well that serves as a potable water supply and to the bottom of the well;

2) Unconsolidated sand, gravel, or sand and gravel that is 5 feet or more in thickness and contains 12% or less of fines (i.e., fines that pass through a No. 200 sieve tested in compliance with ASTM Standard Practice D2487-06, incorporated by reference in Section 620.125);

3) Sandstone that is 10 feet or more in thickness or fractured carbonate that is 15 feet or more in thickness;

4) Any geologic material that is capable of a:

A) Sustained groundwater yield, from up to a 12-inch borehole, of at least 150 gallons per day from a thickness of 15 feet or less; or

B) Hydraulic conductivity of 1×10^{-4} cm/sec or greater using one of the following test methods or its equivalent:

i) Slug test; or

ii) Pump test

5) A wellhead protection area, as defined in Section 620.110, that is a Phase I or Phase II wellhead protection area delineated in compliance with the "Guidance Document for Groundwater Protection Needs Assessments" and “The Illinois Wellhead Protection Program”, both incorporated by reference in Section 620.125; or

6) The maximum setback zone of a community water supply well adopted under Section 14.3 of the Act.

b) Groundwater that is determined by the Board, under the procedures specified in Section 620.260, to be capable of potable use.
BOARD NOTE: In determining whether geologic material meets a subsection (a)(2) or (a)(3) thickness minimum or the subsection (a)(4)(A) thickness maximum, the entire thickness of the geologic material is

considered, regardless of whether all or only some of the thickness is 10 feet or more below the land surface. For example, groundwater that is 10 feet or more below the land surface and within any geologic material described in subsection (a)(2), (a)(3), or (a)(4)(A) is designated as Class I: Potable Resource Groundwater, even if some of the geologic material's thickness is within 10 feet of the land surface. In addition, if groundwater that is 10 feet or more below the land surface—and within any region or geologic material described in subsection (a)—also extends upward to within 10 feet of the land surface, then the groundwater 10 feet or more below the land surface is designated as Class I: Potable Resource Groundwater but the groundwater within 10 feet of the land surface is not.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.220 Class II: General Resource Groundwater

Except as provided in Section 620.250, General Resource Groundwater is as described in subsection (a) or (b):

a) Groundwater that does not meet Section 620.210 (Class I), Section 620.230 (Class III), or Section 620.240 (Class IV); or

b) Groundwater that is determined by the Board, under the procedures specified in Section 620.260, to be capable of agricultural, industrial, recreational, or other beneficial uses.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.230 Class III: Special Resource Groundwater

Except as provided in Section 620.250, Special Resource Groundwater is as described in subsection (a) or (b):

a) Groundwater that is determined by the Board, under the procedures specified in Section 620.260, to be:

1) Demonstrably unique (e.g., irreplaceable sources of groundwater) and suitable for application of a groundwater quality standard more stringent than the otherwise applicable groundwater quality standard specified in Subpart D; or

2) Vital for a particularly sensitive ecological system.

b) Groundwater that contributes to a dedicated nature preserve that is listed by the Agency as specified below:

1) A written request to list a dedicated nature preserve under this subsection must contain the following information:

A) A general description of the site and the surrounding land use;

B) A topographic map or other map of suitable scale denoting the location of the dedicated nature preserve;

C) A general description of the existing groundwater quality at and surrounding the dedicated nature preserve;

D) A general geologic profile of the dedicated nature preserve based upon the most reasonably available information, including geologic maps and subsurface groundwater flow directions; and

E) A description of the interrelationship between groundwater and the nature of the site.

2) Upon confirmation by the Agency of the technical adequacy of a written request, the Agency must publish the proposed listing of the dedicated nature preserve in the Environmental Register for a 45-day public comment period. Within 60 days after the close of the public comment period, the Agency must either publish a final listing of the dedicated nature preserve in the Environmental Register or provide a written response to the requestor specifying the reasons for not listing the dedicated nature preserve.

3) At least once annually, the Agency must publish in the Environmental Register a complete listing of all dedicated nature preserves listed under this subsection.

4) For this subsection "dedicated nature preserve" means a nature preserve that is dedicated under the Illinois Natural Areas Preservation Act [525 ILCS 30].

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.240 Class IV: Other Groundwater

Except as provided in Section 620.250, Other Groundwater is as described in subsection (a), (b), (c), (d), (e), (f), (g), or (h).

a) Groundwater within a zone of attenuation under 35 Ill. Adm. Code 811 and 814.

b) Groundwater within a point of compliance under 35 Ill. Adm. Code 724, but not to exceed a lateral distance of 200 feet from the edge of a potential primary or secondary source.

c) Groundwater that naturally contains more than 10,000 mg/L of total dissolved solids.

d) Groundwater that has been designated by the Board as an exempt aquifer under 35 Ill. Adm. Code 730.104.

e) Groundwater that underlies a potential primary or secondary source, in which contaminants may be present from a release, if the owner or operator of the source notifies the Agency in writing and the following conditions are met:

1) The outermost edge of what would be considered the Class IV groundwater is the closest practicable distance from the source, but does not exceed:

A) A lateral distance of 25 feet from the edge of the potential source or the property boundary, whichever is less, and

B) A depth of 15 feet from the bottom of the potential source or the land surface, whichever is greater;

2) The source of any release of contaminants to groundwater has been controlled;

3) Migration of contaminants within the site resulting from a release to groundwater has been minimized;

4) Any on-site release of contaminants to groundwater has been managed to prevent migration off-site; and

5) No potable water well exists within the outermost edge as specified in subsection (e)(1).

f) Groundwater that underlies a coal mine refuse disposal area not contained within an area from which overburden has been removed, a coal combustion waste disposal area at a surface coal mine authorized under Section 21(s) of the Act, or an impoundment that contains sludge, slurry, or precipitated process material at a coal preparation plant, in which contaminants may be present, if the area or impoundment began operating after February 1, 1983, the owner and operator notifies the Agency in writing, and the following conditions are met:

1) The outermost edge of what would be considered the Class IV groundwater is the closest practicable distance from the area or impoundment, but does not exceed:

A) A lateral distance of 25 feet from the edge of the area or impoundment, or the property boundary, whichever is less; and

B) A depth of 15 feet from the bottom of the area or impoundment, or the land surface, whichever is greater;

2) The source of any release of contaminants to groundwater has been controlled;

3) Migration of contaminants within the site resulting from a release to groundwater has been minimized;

4) Any on-site release of contaminants to groundwater has been managed to prevent migration off-site; and

5) No potable water well exists within the outermost edge as specified in subsection (f)(1).

g) Groundwater within a previously mined area, unless monitoring demonstrates that the groundwater is capable of consistently meeting the standards of specified in Section 620.410 or 620.420. If that capability is determined, groundwater within the previously mined area must not be considered Class IV.

h) Groundwater regulated under 35 Ill. Adm. Code 845.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.250 Groundwater Management Zone

a) Within any class of groundwater, a groundwater management zone (GMZ) may be established as a three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of one or more contaminants that is subject to a corrective action process approved by the Agency.

b) Before a GMZ may be established, the owner or operator of a site at which there has been a release of one or more contaminants to groundwater must submit to the Agency a GMZ application. The application must contain the information required by Section 620.Appendix D, Parts I, II, and III, as

well as any other information requested in writing by the Agency that is relevant to its review under subsection (c).

1) If the GMZ would extend off-site, the GMZ application must include each off-site property owner's written permission to the establishment of the GMZ on its property. If effectively implementing the off-site portion of the GMZ requires accessing an off-site property, the GMZ application must also include the off-site property owner's written permission for that access. If the applicable written permission or permissions from an off-site property owner are not obtained—whether permission to establish the GMZ off-site, access the off-site property, or both—the GMZ will not include that off-site property.

2) Nothing in this subsection (b) precludes the owner or operator from including additional information in its GMZ application.

3) Nothing in this subsection (b) requires that a GMZ application be in the form specified in Section 620.Appendix D, Parts I, II, and III.

c) The Agency must review each GMZ application submitted under subsection (b) and issue a written determination approving or rejecting the GMZ.

1) In determining whether to approve a GMZ, the Agency must consider the substantive information provided in support of the GMZ, the technical sufficiency of the GMZ, the likelihood that the GMZ will protect public health and the environment, and the likelihood that the GMZ's corrective action process will, in a timely manner, result in compliance with the applicable standards specified in Section 620.410, 620.420, 620.430, or 620.440 or otherwise minimize exceedances to restore beneficial use as appropriate for the class or classes of groundwater. If the Agency rejects a GMZ, the Agency must, in its written determination, specify the reasons for the rejection.

2) A GMZ is established when the Agency issues a written determination approving the GMZ, including its corrective action process. Once a GMZ is established and before the corrective action is complete, the Agency may, as new information warrants and subject to the standards of subsection (c)(1), issue written determinations amending any part of the GMZ, including its size, the contaminants that are subject to it, and its corrective action process, as provided in this subsection (c)(2). A GMZ is amended when the Agency issues a written determination amending the GMZ. If the Agency rejects a submittal of the site owner or operator to amend the GMZ under subsection (c)(2)(i) or (c)(2)(ii), the Agency must do so in a written determination that specifies the reasons for the rejection.

i) The Agency may issue a written determination directing that the site owner or operator submit to the Agency a written proposal to amend the GMZ, consistent with subsection (b). The Agency's determination must identify the amendment to be proposed and specify the reasons why the amendment is necessary. If the owner or operator fails to submit a proposal or the Agency rejects the proposal, the Agency may terminate the GMZ under subsection (f) either on its own initiative or at the written request of the owner or operator.

ii) If it wishes to have the Agency amend the GMZ, the site owner or operator must submit to the Agency a written proposal to amend the GMZ, consistent with subsection (b). If the Agency rejects the proposal, the Agency may terminate the GMZ under subsection (f) either on its own initiative or at the written request of the owner or operator.

d) When it completes the corrective action under subsection (c)(2), the site owner or operator must submit to the Agency a written demonstration that complies with subsection (d)(1) or (d)(2) and contains the information required by the completion certification specified in Section 620.Appendix D, Part IV. The Agency must review this demonstration and issue a written determination approving or rejecting the demonstration. Nothing in this subsection (d) requires the owner or operator to make the demonstration using any specific type of documentation or precludes the owner or operator from including additional information in the demonstration. .

1) The owner or operator must demonstrate that it has completed the corrective action under subsection (c)(2) and the applicable standards of Subpart D, as specified in Section 620.450(a)(4)(A), have been attained in groundwater within the GMZ. If the Agency approves this demonstration, the Agency must issue a written determination to that effect in which the Agency terminates the GMZ. The termination takes effect when the Agency issues this determination. If the Agency rejects this demonstration, the Agency must, in its written determination, specify the reasons for the rejection, which may include the Agency's basis for amending the GMZ to require additional corrective action under subsection (c)(2).

2) The owner or operator must demonstrate that it has completed the corrective action under subsection (c)(2) and concentrations of released chemical constituents, as specified in Section 620.450(a)(4)(B), remain in groundwater within the GMZ. The owner or operator must also demonstrate compliance with Section 620.450(a)(4)(B)(i) and (ii), as well as the on-going adequacy of

controls, management, or both, as applicable, to maintain compliance with Section 620.450(a)(4)(B)(i) and (ii). If the Agency approves this demonstration, the Agency must issue a written determination to that effect in which the Agency states that the GMZ remains in effect. If the Agency rejects this demonstration, the Agency must, in its written determination, specify the reasons for the rejection, which may include the Agency's basis for amending the GMZ to require additional corrective action under subsection (c)(2).

e) Within five years after the Agency issues a written determination approving a demonstration under subsection (d)(2), the site owner or operator must submit a report to the Agency demonstrating the on-going adequacy of controls, management, or both, as applicable, to maintain compliance with Section 620.450(a)(4)(B)(i) and (ii). The Agency must review the report and issue a written determination approving or rejecting the demonstration.

1) The submittal of these reports by the owner or operator and the corresponding issuance of these written determinations by the Agency must occur at least every five years while the GMZ remains in effect. If the Agency rejects a demonstration, the Agency must, in its written determination, specify the reasons for the rejection, which may include the Agency's basis for amending the GMZ to require additional controls or management under this subsection (e).

2) Any amendment to controls or management under this subsection (e) is subject to the amendment provisions of subsection (c)(2), except that the standard for the Agency's determination is whether the controls or management, as amended, would be adequate to maintain compliance with Section 620.450(a)(4)(B)(i) and (ii).

f) Without limiting any other legal authority of the Agency to terminate a GMZ, the Agency may issue a written determination terminating a GMZ based on any of the grounds specified in this subsection (f). The determination must specify the grounds for terminating the GMZ. The termination takes effect when the Agency issues this determination. The Agency may terminate a GMZ if:

1) The site owner or operator fails to perform or comply with the schedule for any part of the GMZ, including its corrective action under subsection (c)(2) or its controls or management under subsection (d)(2) or (e);

2) The Agency rejects a proposal to amend the GMZ under subsection (c)(2) or a demonstration under subsection (d) or (e);

3) The site owner or operator commits fraud or misrepresentation in any submittal under subsection (b), (c)(2), (d), or (e);

4) The site owner or operator submits to the Agency a written request to terminate the GMZ under subsection (c)(2); or

5) The Agency, after issuing a written determination approving a demonstration under subsection (d)(2), determines that

i) The applicable standards specified in Section 620.410, 620.420, 620.430, or 620.440 have been attained in groundwater within the GMZ; or

ii) Additional corrective action is necessary because controls and management are no longer adequate to maintain compliance with Section 620.450(a)(4)(B)(i) and (ii).

g) Upon GMZ termination under subsection (f), the groundwater within the three-dimensional region formerly encompassed by the GMZ becomes both designated as one of the four classes of groundwater specified in Section 620.201(a) and subject to the standards for the applicable class of groundwater specified in Section 620.410, 620.420, 620.430, or 620.440.

h) Regardless of subsections (a) through (c), a "groundwater management zone", as defined in 35 Ill. Adm. Code 740.120, may be established under 35 Ill. Adm. Code 740.530 for sites in the Site Remediation Program (35 Ill. Adm. Code 740). A GMZ established under 35 Ill. Adm. Code 740.530 remains in effect until any condition of 35 Ill. Adm. Code 740.530(c) is met.

i) While a GMZ established under 35 Ill. Adm. Code 740.530 is in effect, the otherwise applicable standards of Subpart D of this Part do not apply to the “contaminants of concern”, as defined in 35 Ill. Adm. Code 740.120, for which groundwater remediation objectives have been approved under 35 Ill. Adm. Code 740.

j) Regardless of subsection (d), that subsection’s submittal and review requirements concerning the demonstration when corrective action is complete do not apply to a GMZ under 35 Ill. Adm. Code 740.530. Regardless of subsection (e), that subsection's submittal and review requirements concerning the on-going adequacy of controls and management do not apply to groundwater within a three-dimensional region formerly encompassed by a GMZ established under 35 Ill. Adm. Code 740.530 while a No Further Remediation Letter issued under 35 Ill. Adm. Code 740 is in effect.

k) The Agency must develop and maintain a list of all GMZs that have not been terminated. The list must identify the location of each GMZ. On its

website (https://epa.illinois.gov), the Agency must post the list and, at least annually, update it. In addition, at least annually, the Agency must submit the list to the Board for publication in the Environmental Register.

l) In groundwater regulated under 35 Ill. Adm. Code 845, a GMZ is not available to address any exceedance of a groundwater protection standard specified in 35 Ill. Adm. Code 845.600(a) or (b) (see 35 Ill. Adm. Code 845.600(c)).

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.260 Reclassification of Groundwater by Adjusted Standard

Any person may petition the Board for an adjusted standard to reclassify a groundwater under Section 28.1 of the Act and 35 Ill. Adm. Code 104.Subpart D. In any proceeding to reclassify specific groundwater by adjusted standard, in addition to complying with 35 Ill. Adm. Code 104.406 and Section 28.1(c) of the Act, the petition must contain information to allow the Board to determine:

a) The specific groundwater for which reclassification is requested, including geographical extent of any aquifers, depth of groundwater, and rate and direction of groundwater flow, and that the specific groundwater exhibits the characteristics of the requested class specified in Section 620.210(b), 620.220(b), 620.230, or 620.240;

b) Whether the proposed change or use restriction is necessary for economic or social development, including information concerning any negative economic or social impacts of compliance with the currently applicable groundwater quality standards (e.g., job losses, facility closings), as well as an economic analysis contrasting the costs of meeting the current standards with cost savings due to health and environmental benefits resulting from compliance with those standards;

c) Existing and anticipated uses of the specific groundwater;

d) Existing and anticipated quality of the specific groundwater;

e) Existing and anticipated contamination, if any, of the specific groundwater;

f) Technical feasibility and economic reasonableness of eliminating or reducing contamination of the specific groundwater or of maintaining existing water quality;

g) The anticipated time period over which contaminants will continue to affect the specific groundwater;

h) Existing and anticipated impact on any potable water supplies due to contamination;

i) Availability and cost of alternate water sources or of treatment for users adversely affected;

j) Negative or positive effect on property values; and

k) For special resource groundwater, negative or positive effect on:

1) The quality of surface waters; and

2) Wetlands, natural areas, and the life contained in wetlands and natural areas, including endangered or threatened species of plant, fish, or wildlife listed under the Endangered Species Act, 16 U.S.C. 1531 et seq., or the Illinois Endangered Species Protection Act [520 ILCS 10].

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

SUBPART C: NONDEGRADATION PROVISIONS FOR APPROPRIATE GROUNDWATERS

Section 620.301 General Prohibition Against Use Impairment of Resource Groundwater

a) A person must not cause, threaten, or allow the release of any contaminant to a resource groundwater such that:

1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of the groundwater; or

2) An existing or potential use of the groundwater is precluded.

b) Nothing in this Section prevents the establishment of a groundwater management zone under Section 620.250 or a cumulative impact area within a permitted site.

c) Nothing in this Section limits underground injection in compliance with an underground injection control program administered by the Agency under the Act, by the Department of Natural Resources, Office of Mines and Minerals under the Illinois Oil and Gas Act (225 ILCS 725), or by USEPA under the federal UIC regulations [40 CFR 144].

d) Nothing in this Section limits the Board from promulgating nondegradation provisions applicable to types of facilities or activities that impact groundwater, including landfills regulated under 35 Ill. Adm. Code: Subtitle G.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.302 Applicability of Preventive Notification and Preventive Response Activities

a) Preventive notification and preventive response activities, as specified in Sections 620.305 through 620.310, apply to:

1) Class I groundwater under Section 620.210(a)(1), (a)(2), (a)(3), (a)(5), or (a)(6) that is monitored by any person specified in subsection (b); and

2) Class III groundwater that is monitored by any person specified in subsection (b).

b) For subsection (a), the persons that conduct groundwater monitoring are:

1) An owner or operator of a regulated entity required to perform groundwater quality monitoring under State or federal law or regulation;

2) An owner or operator of a public water supply well who conducts groundwater quality monitoring;

3) A State agency that is authorized to conduct, or is the recipient of, groundwater quality monitoring data (e.g., Illinois Environmental Protection Agency, Department of Public Health, Department of Agriculture, Office of State Fire Marshal, or Department of Natural Resources); or

4) An owner or operator of a facility that conducts groundwater quality monitoring under State or federal judicial or administrative order.

c) If a contaminant exceeds a standard specified in Section 620.410 or Section 620.430, the appropriate remedy is corrective action and Sections 620.305 and 620.310 do not apply.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.305 Preventive Notification Procedures

a) For groundwater quality monitoring under Section 620.302, a preventive notification must occur whenever a contaminant:

1) Specified in Section 620.310(a)(3)(A) is detected (except due to natural causes) in Class I groundwater;

2) Denoted as a carcinogen under Section 620.410(b) is detected in Class I groundwater; or

3) Subject to a standard under Section 620.430 is detected (except due to natural causes) in Class III groundwater.

b) When a preventive notification is required for groundwater that is monitored by a regulated entity for the subject contaminant, the owner or operator of the site must:

1) Confirm the detection by resampling the monitoring well within 30 days after the date on which the first sample analyses are received; and

2) Provide a preventive notification to the appropriate regulatory agency of the results of the resampling analysis within 30 days after the date on which the sample analyses are received, but no later than 90 days after the results of the first samples were received.

c) When a preventive notification is required for groundwater that is monitored by a regulatory agency, the agency must notify the owner or operator of the site where the detection has occurred. The owner or operator must:

1) Confirm the detection by resampling within 30 days after the date of the notice by the regulatory agency; and

2) Provide preventive notification to the regulatory agency of the results of the resampling analysis within 30 days after the date on which the sample analyses are received, but no later than 90 days after the results of the first samples were received.

d) When a preventive notification of a confirmed detection has been provided by an owner or operator under this Section, additional detections of the same contaminant do not require further notice if the groundwater quality conditions are substantially unchanged or that preventive response is underway for the contaminant.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.310 Preventive Response Activities

a) The following preventive assessment must be undertaken:

1) If a preventive notification under Section 620.305(c) is provided by a community water supply:

A) The Agency must notify the owner or operator of any identified potential primary source, potential secondary source, potential route, or community water supply well that is within 2,500 feet of the wellhead.

B) The owner or operator notified under subsection (a)(1)(A) must, within 30 days after the date of issuance of that notice, sample each water well or monitoring well for the contaminant identified in the notice if the contaminant or material containing the contaminant is or has been stored, disposed of, or otherwise handled at the site. If a contaminant identified under Section 620.305(a) is detected, then the well must be resampled within 30 days after the date on which the first sample results are received. If a contaminant identified under Section 620.305(a) is detected by the resampling, preventive notification must be given as specified in Section 620.305.

C) If the Agency receives analytical results under subsection (a)(1)(B) that show a contaminant identified under Section 620.305(a) has been detected, the Agency must:

i) Conduct a well site survey under Section 17.1(d) of the Act[415 ILCS 5/17.1(d)] if one has not been conducted within the last 5 years; and

ii) Identify those sites or activities that represent a hazard to the continued availability of groundwaters for public use unless a groundwater protection needs assessment has been prepared under Section 17.1(d) of the Act.

2) If a preventive notification is provided under Section 620.305(c) by a non-community water supply or for multiple private water supply wells, the Department of Public Health must conduct a sanitary survey within 1,000 feet of the wellhead of a non-community water supply or within 500 feet of the wellheads for

multiple private water supply wells.

3) If a preventive notification under Section 620.305(b) is provided by the owner or operator of a regulated entity and the applicable standard of Subpart D has not been exceeded, the appropriate regulatory agency must:

A) Determine if any of the following occurs for Class I: Potable Resource Groundwater:

i) The levels specified below are exceeded or are changed for pH:

CASRN	Constituent	Criteria (mg/L)
95-50-1	*o*-Dichlorobenzene (1,2-dichlorobenzene)	0.01
1634-04-4	MTBE methyl tertiary butyl ether	0.02
108-95-2	Phenols	0.001
100-42-5	Styrene	0.01
108-88-3	Toluene	0.04
1330-20-7	Xylenes	0.02

ii) A statistically significant increase occurs above background (as determined under other regulatory procedures (e.g., 35 Ill. Adm. Code 616, 724, 725, or 811)) for the following inorganic constituents (except due to natural causes) or organic constituents:

CASRN	**Constituent**
Inorganics	
7429-90-5	Aluminum
7440-38-2	Arsenic
7440-41-7	Beryllium
7440-43-9	Cadmium
7440-47-3	Chromium (total)
143-33-9	Cyanide
7439-92-1	Lead
7487-94-7	Mercury (mercuric chloride)
7439-98-7	Molybdenum
7440-28-0	Thallium
7440-62-2	Vanadium

Organics

83-32-9	Acenaphthene
67-64-1	Acetone
116-06-3	Aldicarb
120-12-7	Anthracene
319-84-6	*alpha-BHC (alpha*-benzene hexachloride)
1912-24-9	Atrazine and metabolites
DEA, DIA, DACT	
71-43-2	Benzene
56-55-3	Benzo(a)anthracene
205-99-2	Benzo(b)fluoranthene
207-08-9	Benzo(k)fluoranthene
50-32-8	Benzo(a)pyrene
65-85-0	Benzoic acid
78-93-3	2-Butanone (methyl ethyl ketone)
1563-66-2	Carbofuran
75-15-0	Carbon disulfide
56-23-5	Carbon tetrachloride
12789-03-6	Chlordane
108-90-7	Chlorobenzene
67-66-3	Chloroform
218-01-9	Chrysene
94-75-7	2.4-D (2.4-dichlorophenoxy acetic acid)
75-99-0	Dalapon
96-12-8	1,2-Dibromo-3-chloropropane (dibromochloroorooane)
1918-00-9	Dicamba
106-46-7	*p*-Dichlorobenzene (1,4-dichlorobenzene)
75-71-8	Dichlorodifluoromethane
75-34-3	1,1-Dichloroethane
75-35-4	1,1-Dichloroethylene
107-06-2	1,2-Dichloroethane
156-59-2	*cis*-1,2-Dichloroethylene
156-60-5	*trans*-1,2-Dichloroethylene
75-09-2	Dichloromethane (methylene chloride)
78-87-5	1,2-Dichloropropane
117-81-7	Di(2-ethylhexyl)phthalate
84-66-2	Diethyl phthalate
84-74-2	Di-*n*-butyl phthalate
99-65-0	1,3-Dinitrobenzene
121-14-2	2,4-Dinitrotoluene
88-85-7	Dinoseb
123-91-1	1,4-Dioxane (*p* dioxane)
145-73-3	Endothall

72-20-8	Endrin
100-41-4	Ethylbenzene
106-93-4	Ethylene dibromide (1,2-dibromoethane)
206-44-0	Fluoranthene
86-73-7	Fluorene
58-89-9	*gamma-HCH* (*gamma*-hexachlorocyclohexane lindane)
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid, GenX)
2691-41-0	HMX (octahydro-1,3,5,7-tetranitro-1, 3, 5, 7-tetrazocine)
76-44-8	Heptachlor
1024-57-3	Heptachlor epoxide
77-47-4	Hexachlorocyclopentadiene
193-39-5	Indeno(l,2,3-c,d)pyrene
98-82-8	Isopropylbenzene (cumene)
72-43-5	Methoxychlor
90-12-0	1-Methylnaphthalene
91-57-6	2-Methylnaphthalene
95-48-7	2-Methylphenol (*o*-cresol)
91-20-3	Naphthalene
98-95-3	Nitrobenzene
1336-36-3	PCBs (polychlorinated biphenyls as decachloro-biphenyl)
375-73-5	PFBS (perfluorobutanesulfonic acid)
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
335-67-1	PFOA (perfluorooctanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)
87-86-5	Pentachlorophenol
1918-02-1	Picloram
129-00-0	Pyrene
121-82-4	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)
122-34-9	Simazine
118-96-7	TNT (2,4,6-trinitrotoluene)
93-72-1	2,4,5-TP (silvex)
127-18-4	Tetrachloroethylene

8001-35-2	Toxaphene
120-82-1	1,2,4-Trichlorobenzene
71-55-6	1,1,1-Trichloroethane
79-00-5	1,1,2-Trichloroethane
79-01-6	Trichloroethylene
75-69-4	Trichlorotluoromethane
99-35-4	1,3,5-Trinitrobenzene
75-01-4	Vinyl chloride

iii) For a chemical constituent of gasoline, diesel fuel, or heating fuel, the constituent exceeds the following:

Constituent	Criterion (mg/L)
BETX	0.095

iv) For pH, a statistically significant change occurs from background.

B) Determine if, for Class III: Special Resource Groundwater, the levels as determined by the Board are exceeded.

C) Consider whether the owner or operator reasonably demonstrates that:

i) The contamination is a result of contaminants remaining in groundwater from a prior release for which appropriate action was taken in compliance with laws and regulations in existence at the time of the release;

ii) The source of contamination is not due to the on-site release of contaminants; or

iii) The detection resulted from error in sampling, analysis, or evaluation.

D) Consider actions necessary to minimize the degree and extent of contamination.

b) The appropriate regulatory agency must determine whether a preventive response should be undertaken based on relevant factors, including the considerations in subsection (a)(3).

c) After completion of preventive response under the authority of an appropriate regulatory agency, the concentration of a contaminant specified in subsection (a)(3)(A) in groundwater may exceed 50% of the

applicable numerical standard of Subpart D if the following conditions are met:

1) The exceedance has been minimized to the extent practicable;

2) Beneficial use, as appropriate for the class of groundwater, has been assured; and

3) Any threat to public health or the environment has been minimized.

d) Nothing in this Section limits the authority of the State or the United States to require or perform any corrective action process.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

SUBPART D: GROUNDWATER QUALITY STANDARDS

Section 620.401 Applicability

Groundwater must meet the standards appropriate to the groundwater's class as specified in this Subpart and the nondegradation provisions of Subpart C

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.405 General Prohibitions Against Violations of Groundwater Quality Standards

A person must not cause, threaten, or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard specified in this Subpart to be exceeded.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.410 Groundwater Quality Standards for Class I: Potable Resource Groundwater

a) Inorganic Chemical Constituents
Except due to natural causes or as provided in Section 620.450, concentrations of the following chemical constituents must not be exceeded in Class I groundwater:

CASRN	Constituent	Standard (mg/L) [a,b]
7429-90-5	Aluminum	1.9[c]
7440-36-0	Antimony	0.006[d]
7440-38-2	Arsenic[e]	0.01[d]

7440-39-3	Barium	2.0[d]
7440-41-7	Beryllium	0.004[d]
7440-42-8	Boron	2.0[f]
7440-43-9	Cadmium	0.005[d]
16887-00-6	Chloride	200[g]
7440-47-3	Chromium (total)	0.1[d]
7440-48-4	Cobalt	0.0012[c]
7440-50-8	Copper	0.5[h]
143-33-9	Cyanide	0.2[d]
7681-49-4	Fluoride	4[d]
7439-89-6	Iron	5[g]
7439-92-1	Lead	0.0075[i]
7439-93-2	Lithium	0.04[j]
7439-96-5	Manganese	0.15[k]
7487-94-7	Mercury (mercuric chloride)	0.002[d]
7439-98-7	Molybdenum	0.308[c]
7440-02-0	Nickel	0.077[c]
14797-55-8	Nitrate as N	10[d]
14797-73-0	Perchlorate	0.0081[c]
7440-14-4	Radium (combined 226+228)	5[d]
7782-49-2	Selenium	0.02[f]
7440-22-4	Silver	0.058[c]
14808-79-8	Sulfate	400[g]
	TDS (total dissolved solids)	1,200[g]
7440-28-0	Thallium	0.002[d]
7440-62-2	Vanadium	0.00027[c]
7440-66-6	Zinc	1.2[c]

Constituent Name and Groundwater Quality Standard Notations

[a] The standard unit for radium (combined 226+228) is picocuries per liter (pCi/L).

[b] The inorganic groundwater quality standards are based on total metal analyses for the evaluation of human health effects.

[c] The standard is calculated using the Human Threshold Toxicant Advisory Concentration (HTTAC) procedures at Appendix A.

[d] The standard is based on the Maximum Contaminant Level (MCL), promulgated by USEPA, Office of Water, and Illinois Primary Drinking Water Standards specified in 35 Ill. Adm. Code 611.

[e] The constituent meets the definition of a "carcinogen" in Section 620.110.

[f] The standard is based on beneficial use for irrigation of crops, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[g] The standard is the 95% confidence concentration stated in the Agency's "Integrated Water Quality Report and Section 303(d) List", incorporated by reference in Section 620.125.

[h] The standard is based on beneficial use for watering livestock, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[i] The standard is 50% of the USEPA "action level" of 0.015 mg/L for lead. The USEPA action level applies at the service connection. The standard is reduced by 50% as a safety margin, based on the assumption that 50% of water would be treated.

[j] The standard is the "LLOQ" or "LCMRL" as defined in Section 620.110.

[k] The standard is promulgated at 35 Ill. Adm. Code 611.300.

b) Organic Chemical Constituents
Except due to natural causes or as provided in Section 620.450 or subsection (c) of this Section, concentrations of the following organic chemical constituents must not be exceeded in Class I groundwater:

CASRN	**Constituent**	**Standard (mg/L)**
83-32-9	Acenaphthene	0.23[a]
67-64-1	Acetone	3.5[a]
15972-60-8	Alachlor[b]	0.002[c]
116-06-3	Aldicarb	0.003[c]
120-12-7	Anthracene	1.2[a]
319-84-6	*alpha*-BHC (*alpha*-benzene hexachloride)[b]	0.000012[d]
71-43-2	Benzene[b]	0.005[c]
56-55-3	Benzo(a)anthracene[e]	0.00025[d]
205-99-2	Benzo(b)fluoranthene[e]	0.00025[d]
207-08-9	Benzo(k)fluoranthene[e]	0.0025[d]
50-32-8	Benzo(a)pyrene[e]	0.0002[c]
65-85-0	Benzoic acid	15[a]
78-93-3	2-Butanone (methyl ethyl ketone)	2.3[a]
1563-66-2	Carbofuran	0.04[c]
75-15-0	Carbon disulfide	0.38[a]
56-23-5	Carbon tetrachloride[b]	0.005[c]
12789-03-6	Chlordane[b]	0.002[c]
108-90-7	Chlorobenzene	0.1[c]
67-66-3	Chloroform[b]	0.07[f]
218-01-9	Chrysene[e]	0.025[d]
94-75-7	2,4-D (2,4-dichlorophenoxy acetic acid)	0.07[c]
75-99-0	Dalapon	0.2[c]

53-70-3	Dibenzo(a,h)anthracene[e]	0.0001[g]
96-12-8	1,2-Dibromo-3-chloropropane (dibromochloropropane)[e]	0.0002[c]
1918-00-9	Dicamba	0.12[a]
95-50-1	*o*-Dichlorobenzene (1,2-dichlorobenzene)	0.6[c]
106-46-7	*p*-Dichlorobenzene (1,4-dichlorobenzene)[b]	0.075[c]
75-71-8	Dichlorodifluoromethane	0.77[a]
75-34-3	1,1-Dichloroethane	0.77[a]
107-06-2	1,2-Dichloroethane[b]	0.005[c]
75-35-4	1,1-Dichloroethylene	0.007[c]
156-59-2	*cis*-1,2-Dichloroethylene	0.07[c]
156-60-5	*trans*-1,2-Dichloroethylene	0.1[c]
75-09-2	Dichloromethane (methylene chloride)[e]	0.005[c]
78-87-5	1,2-Dichloropropane[b]	0.005[c]
117-81-7	Di(2-ethylhexyl)phthalate[b]	0.006[c]
84-66-2	Diethyl phthalate	3.1[a]
84-74-2	Di-*n*-butyl phthalate	0.38[a]
99-65-0	1,3-Dinitrobenzene	0.001[g]
121-14-2	2,4-Dinitrotoluene[b]	0.001[g]
606-20-2	2,6-Dinitrotoluene[b]	0.0001[g]
88-85-7	Dinoseb	0.007[c]
123-91-1	1,4-Dioxane (*p*-dioxane)[b]	0.00078[d]
145-73-3	Endothall	0.1[c]
72-20-8	Endrin	0.002[c]
100-41-4	Ethylbenzene[b]	0.7[c]
106-93-4	Ethylene dibromide (1,2-dibromoethane)[b]	0.00005[c]
206-44-0	Fluoranthene	0.15[a]
86-73-7	Fluorene	0.15[a]
58-89-9	*gamma*-HCH (*gamma*-Hexachlorocyclohexane, lindane)[b]	0.0002[c]
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)	0.000010[c]
2691-41-0	HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)	0.77[a]
76-44-8	Heptachlor[b]	0.0004[c]
1024-57-3	Heptachlor epoxide[b]	0.0002[c]
77-47-4	Hexachlorocyclopentadiene	0.05[c]
193-39-5	Indeno(l,2,3-c,d)pyrene[e]	0.00025[d]
98-82-8	Isopropylbenzene (cumene)[b]	0.38[a]
93-65-2	MCPP (mecoprop)	0.1[g]
1634-04-4	MTBE (methyl tertiary-butyl ether)	0.038[a]
72-43-5	Methoxychlor	0.04[c]
90-12-0	1-Methylnaphthalene	0.27[a]
91-57-6	2-Methylnaphthalene	0.015[c]
95-48-7	2-Methylphenol (*o*-cresol)	0.19[a]

91-20-3	Naphthalene	0.077[a]
98-95-3	Nitrobenzene	0.0077[a]
1336-36-3	PCBs (polychlorinated biphenyls as decachloro-biphenyl)[b]	0.0005[c]
375-73-5	PFBS (perfluorobutanesulfonic acid)	0.002[c]
355-46-4	PFHxS (perfluorohexanesulfonic acid)	0.000010[c]
375-95-1	PFNA (perfluorononanoic acid)	0.000010[c]
335-67-1	PFOA (perfluorooctanoic acid)[b]	0.000004[bc]
1763-23-1	PFOS (perfluorooctanesulfonic acid)	0.000004[bc]
87-86-5	Pentachlorophenol	0.001[c]
108-95-2	Phenol	0.1[h]
1918-02-1	Picloram	0.5[c]
129-00-0	Pyrene	0.12[a]
121-82-4	RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	0.062[a]
122-34-9	Simazine	0.004[c]
100-42-5	Styrene	0.1[c]
118-96-7	TNT (2,4,6-trinitrotoluene)	0.0077[a]
93-72-1	2,4,5-TP (silvex)	0.05[c]
127-18-4	Tetrachloroethylene[b]	0.005[c]
108-88-3	Toluene	1[c]
8001-35-2	Toxaphene[b]	0.003[c]
120-82-1	1,2,4-Trichlorobenzene	0.07[c]
71-55-6	1,1,1-Trichloroethane	0.2[c]
79-00-5	1,1,2-Trichloroethane	0.005[c]
79-01-6	Trichloroethylene[e]	0.005[c]
75-69-4	Trichlorofluoromethane	1.2[a]
99-35-4	1,3,5-Trinitrobenzene	0.46[a]
75-01-4	Vinyl chloride[e]	0.002[c]
1330-20-7	Xylenes	10[c]

Constituent Name and Groundwater Quality Standard Notations

[a] The standard is the Human Threshold Toxicant Advisory Concentration (HTTAC), calculated using procedures specified in Appendix A.

[b] The constituent meets the definition of a "carcinogen" in Section 620.110.

[c] The standard is based on the Maximum Contaminant Level (MCL), promulgated by USEPA, Office of Water, and Illinois Primary Drinking Water Standards in 35 Ill. Adm. Code 611.

[d] The standard is the Human Nonthreshold Toxicant Advisory Concentration ("HNTAC"), calculated using procedures specified in Appendix A.

[e] The constituent meets the definition of a "mutagen" in Section 620.110.

[f] The standard is based on the Maximum Contaminant Level Goal ("MCLG"), promulgated by USEPA, Office of Water.

[g] The standard is the "LLOQ" or "LCMRL" as defined in Section 620.110.

[h] The standard is based on 35 Ill. Adm. Code 302.208.

c) Complex Organic Chemical Mixtures

1) Concentrations of the following chemical constituents must not be exceeded in Class I groundwater:

CASRN	Constituent	Standard (mg/L)
71-43-2	Benzene[a]	0.005[b]
	Total BETX	11.705[c]

Constituent Name and Groundwater Quality Standard Notations

[a] The constituent meets the definition of a "carcinogen" in Section 620.110.

[b] The standard is based on the Maximum Contaminant Level (MCL), promulgated by USEPA, Office of Water, and Illinois Primary Drinking Water Standards at 35 Ill. Adm. Code 611.

[c] The standard is the total combined standard of benzene, ethylbenzene, toluene, and xylenes.

2) Atrazine and Metabolites

Concentrations of the following chemical constituents must not be exceeded in Class I groundwater.

CASRN	Constituent	Standard (mg/L)
1912-24-9	Atrazine	0.003[a]
	Total Atrazine and Metabolites	0.003
6190-65-4	DEA (desethyl-atrazine)	
1007-28-9	DIA (desisopropyl-atrazine)	
3397-62-4	DACT (diaminochlorotriazine)	

Groundwater Quality Standard Notation

[a]The standard is based on the Maximum Contaminant Level (MCL), promulgated by USEPA, Office of Water, and Illinois Primary Drinking Water Standards at 35 Ill. Adm. Code 611.

d) pH
Except due to natural causes, a pH range of 6.5 - 9.0 units must not be exceeded in Class I groundwater.

e) Beta Particle and Photon Radioactivity

1) Except due to natural causes, the average annual concentration of beta particle and photon radioactivity from man-made radionuclides must not exceed a dose equivalent to the total body or any internal organ greater than 4 mrem/year in Class I groundwater. If two or more radionuclides are present, the sum of their dose equivalent to the total body or any internal organ must not exceed 4 mrem/year in Class I groundwater except due to natural causes.

2) Except for the radionuclides specified in subsection (e)(3), the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalent must be calculated on the basis of a 2 liter per day drinking water intake using the 168-hour data in compliance with the procedure specified in NCRP Report Number 22, incorporated by reference in Section 620.125(a).

3) Except due to natural causes, the average annual concentration assumed to produce a total body or organ dose of 4 mrem/year of the following chemical constituents must not be exceeded in Class I groundwater:

CASRN	Constituent	Critical Organ	Standard (pCi/L)
10028-17-8	Tritium	Total Body	20,000
10098-97-2	Strontium-90	Bone Marrow	8.0

f) No facility that is subject to 35 Ill. Adm. Code 811 or 814 must comply with any requirement or standard of those rules to the extent it incorporates or is otherwise based on any of the following constituents or their standards under this Section:

CASRN	Constituent

13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)
375-73-5	PFBS (perfluorobutanesulfonic acid)
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
335-67-1	PFOA (perfluorooctanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater

a) Inorganic Chemical Constituents

1) Except due to natural causes or as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

CASRN	Constituent	Standard (mg/L)[a]
7440-36-0	Antimony	0.024[b]
7440-38-2	Arsenic[b]	0.2[d]
7440-39-3	Barium	2.0[e]
7440-41-7	Beryllium	0.5[f]
7440-43-9	Cadmium	0.05[g]
7440-47-3	Chromium (total)	1.0[g]
7440-48-4	Cobalt	1[d]
143-33-9	Cyanide	0.6[d]
7681-49-4	Fluoride	4[e]
7439-92-1	Lead	1.0[d]
7439-93-2	Lithium	2.5[f]
7487-94-7	Mercury (mercuric chloride)	0.01[d]
7439-98-7	Molybdenum	0.308[e]
14797-55-8	Nitrate as N	100[d]
14797-73-0	Perchlorate	0.0081[e]
7440-28-0	Thallium	0.02[h]
7440-62-2	Vanadium	0.1[d]

Constituent Name and Groundwater Quality Standard Notations

[a] The inorganic groundwater quality standards are based on total

metal analyses for the evaluation of human health effects.

[b] A treatment factor of 4 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at an 75% removal efficiency rate for the constituent.

[c] The constituent meets the definition of a "carcinogen" in Section 620.110.

[d] The standard is based on beneficial use for watering livestock, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[e] The Class II standard is equal to the Class I groundwater quality standard.

[f] The standard is based on beneficial use for irrigation of crops, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[g] The standard is based on beneficial use for watering livestock and irrigation of crops, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[h] A treatment factor of 10 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at an 90% removal efficiency rate for the constituent.

2) Except as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

CASRN	**Constituent**	**Standard (mg/L)[a,b]**
7429-90-5	Aluminum	5[c]
7440-42-8	Boron	2[d]
16887-00-6	Chloride	200[e]
7440-50-8	Copper	0.5[c]
7439-89-6	Iron	5[e]
7439-96-5	Manganese	10[d]
7440-02-0	Nickel	2[d]
7440-14-4	Radium (combined 226+228)	5[f]
7782-49-2	Selenium	0.02[d]
7440-22-4	Silver	0.058[f]
14808-79-8	Sulfate	400[e]

	TDS (total dissolved solids)	1,200[e]
7440-66-6	Zinc	10[d]

Constituent Name and Groundwater Quality Standard Notations

[a] The standard units for radium (combined 226+228) is picocuries per liter (pCi/L).

[b] The inorganic groundwater quality standards are based on total metal analyses for the evaluation of human health effects.

[c] The standard is based on beneficial use for watering livestock and irrigation of crops, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[d] The standard is based on beneficial use for irrigation of crops, per "Water Quality Criteria", by National Academy of Sciences, incorporated by reference in Section 620.125.

[e] The standard is the 95% confidence concentration stated in the Agency's "Integrated Water Quality Report and Section 303(d) List", incorporated by reference in Section 620.125.

[f] The Class II standard is equal to the Class I groundwater quality standard.

3) The standard for any inorganic chemical constituent specified in subsection (a)(2) and barium specified in subsection (a)(1) does not apply within fill material or within the upper 10 feet of parent material under fill material on a site not within the rural property class for which the conditions of subsection (a)(3)(A) or (a)(3)(B) are met. For pH, the standard specified in subsection (d) does not apply to groundwater within fill material below 5 feet of land surface or within the upper 10 feet of parent material under fill material on a site not within the rural property class for which the conditions of subsection (a)(3)(A) or (a)(3)(B) are met.

A) Before November 25, 1991, surficial characteristics have been altered by placing the fill material so as to impact the concentration of any parameter (constituent or pH) specified in this subsection (a)(3), and any on-site groundwater monitoring of the parameter is available for review by the Agency.

B) On November 25, 1991, surficial characteristics are in the process of being altered by placing the fill material, in a reasonably continuous manner to completion, so as to impact the concentration of any parameter (constituent or pH) specified in this subsection (a)(3), and any on-site groundwater monitoring of the parameter is available for review by the Agency.

4) For subsection (a)(3), the term "fill material" means clean earthen materials, slag, ash, clean demolition debris, or similar materials.

b) Organic Chemical Constituents

1) Except due to natural causes or as provided in Section 620.450 or subsection (b)(2) or (e) of this Section, concentrations of the following organic chemical constituents must not be exceeded in Class II groundwater:

CASRN	**Constituent**	**Standard (mg/L)**
83-32-9	Acenaphthene	1.2[a]
67-64-1	Acetone	3.5[b]
15972-60-8	Alachlor[c]	0.01[a]
116-06-3	Aldicarb	0.015[a]
120-12-7	Anthracene	6[a]
319-84-6	*alpha-BHC* (*alpha*-benzenehexachloride)[c]	0.00006[a]
71-43-2	Benzene[c]	0.025[a]
56-55-3	Benzo(a)anthracene[d]	0.0012[a]
205-99-2	Benzo(b)fluoranthene[d]	0.0012[a]
207-08-9	Benzo(k)fluoranthene[d]	0.012[a]
50-32-8	Benzo(a)pyrene[d]	0.002[e]
65-85-0	Benzoic acid	15[b]
78-93-3	2-Butanone (methyl ethyl ketone)	2.3[b]
1563-66-2	Carbofuran	0.2[a]
75-15-0	Carbon disulfide	1.9[a]
56-23-5	Carbon tetrachloride[c]	0.025[a]
12789-03-6	Chlordane[c]	0.01[a]
108-90-7	Chlorobenzene	0.5[a]
67-66-3	Chloroform[c]	0.35[a]
218-01-9	Chrysene[d]	0.12[a]
94-75-7	2,4-D (2,4-dichloroohenoxy acetic acid)	0.35[a]
75-99-0	Dalapon	2.0[e]

53-70-3	Dibenzo(a,h)anthracene[d]	0.0005[a]
96-12-8	1,2-Dibromo-3-chloropropane[d]	0.002[e]
1918-00-9	Dicamba	0.12[b]
95-50-1	*o*-Dichlorobenzene (1,2-dichlorobenzene)	1.5[f]
106-46-7	*p*-Dichlorobenzene (1,4-dichlorobenzene)[c]	0.375[a]
75-71-8	Dichlorodifluoromethane	3.9[a]
75-34-3	1,1-Dichloroethane	3.9[a]
107-06-2	1,2-Dichloroethane[c]	0.025[a]
75-35-4	1,1-Dichloroethylene	0.035[a]
156-59-2	*cis*-1,2-Dichloroethylene	0.2[g]
156-60-5	*trans*-1,2-Dichloroethylene	0.5[a]
75-09-2	Dichloromethane (methylene chloride)[d]	0.025[a]
78-87-5	1,2-Dichloropropane[b]	0.025[a]
117-81-7	Di(2-ethylhexyl)phthalate[b]	0.06[e]
84-66-2	Diethyl phthalate	3.1[b]
84-74-2	Di-*n*-butyl phthalate	1.9[a]
99-65-0	1,3-Dinitrobenzene	0.001[b]
121-14-2	2,4-Dinitrotoluene[c]	0.005[a]
606-20-2	2,6-Dinitrotoluene[c]	0.005[a]
88-85-7	Dinoseb	0.07[e]
123-91-1	1,4-Dioxane (*p*-dioxane)[c]	0.00078[b]
145-73-3	Endothall	0.1[b]
72-20-8	Endrin	0.01[a]
100-41-4	Ethylbenzene[c]	1.0[h]
106-93-4	Ethylene dibromide (1,2-dibromoethane)[c]	0.0005[e]
206-44-0	Fluoranthene	0.75[a]
86-73-7	Fluorene	0.75[a]
58-89-9	*gamma*-HCH (*gamma*-hexachlorocyclohexane, lindane)[c]	0.001[a]
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)	0.000010[b]
2691-41-0	HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)	3.9[a]
76-44-8	Heptachlor[c]	0.002[a]
1024-57-3	Heptachlor epoxide[c]	0.001[a]
77-47-4	Hexachlorocyclopentadiene	0.5[e]
193-39-5	Indeno(1,2,3-c,d)pyrene[d]	0.0012[a]

98-82-8	Isopropylbenzene (cumene)[c]	1.9[a]
93-65-2	MCPP (mecoprop)	0.1[b]
1634-04-4	MTBE (methyl tertiary-butyl ether)	0.5[e]
72-43-5	Methoxychlor	0.2[a]
90-12-0	1-Methylnaphthalene	1.35[a]
91-57-6	2-Methylnaphthalene	0.075[a]
95-48-7	2-Methylphenol (*o*-cresol)	0.19[b]
91-20-3	Naphthalene	0.39[a]
98-95-3	Nitrobenzene	0.0077[b]
1336-36-3	PCBs (polychlorinated biphenyls as decachloro-biphenyl)[c]	0.0025[a]
375-73-5	PFBS (perfluorobutanesulfonic acid)	0.002[b]
355-46-4	PFHxS (perfluorohexanesulfonic acid)	0.000010[b]
375-95-1	PFNA (perfluorononanoic acid)	0.000010[b]
335-67-1	PFOA (perfluorooctanoic acid)[c]	0.000004[b]
1763-23-1	PFOS (perfluorooctanesulfonic acid)[c]	0.000004[b]
87-86-5	Pentachlorophenol	0.005[a]
108-95-2	Phenol	0.1[ii]
1918-02-1	Picloram	5.0[e]
129-00-0	Pyrene	0.6[a]
121-82-4	RDX (hexahydro-l,3,5-trinitro-l,3,5-trianzine)	0.062[b]
122-34-9	Simazine	0.04[e]
100-42-5	Styrene	0.5[a]
118-96-7	TNT (2,4,6-trinitrotoluene)	0.039[a]
93-72-1	2,4,5-TP (silvex)	0.25[a]
127-18-4	Tetrachloroethylene[c]	0.025[a]
108-88-3	Toluene	2.5[f]
8001-35-2	Toxaphene[c]	0.015[a]
120-82-1	1,2,4-Trichlorobenzene	0.7[e]
71-55-6	1,1,1-Trichloroethane	1[a]
79-00-5	1,1,2-Trichloroethane	0.05[e]
79-01-6	Trichloroethylene[d]	0.025[a]
75-69-4	Trichlorofluoromethane	6[a]
99-35-4	1,3,5-Trinitrobenzene	2.3[a]
75-01-4	Vinyl chloride[d]	0.01[a]
1330-20-7	Xylenes	10[b]

Constituent Name and Groundwater Quality Standard Notations

[a] A treatment factor of 5 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at an 80% removal efficiency rate for the constituent.

[b] The Agency's treatment efficiency determination demonstrates a treatment factor is not applicable for the constituent. The standard is equal to the Class I groundwater quality standard.

[c] The constituent meets the definition of a "carcinogen" in Section 620.110.

[d] The constituent meets the definition of a "mutagen" in Section 620.110.

[e] A treatment factor of 10 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at a 90% removal efficiency rate for the constituent.

[f] A treatment factor of 2.5 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at a 60% removal efficiency rate for the constituent.

[g] A treatment factor of 3 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at a 65% removal efficiency rate for the constituent.

[h] A treatment factor of 1.5 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at a 30% removal efficiency rate for the constituent.

[i] The standard is based on 35 Ill. Adm. Code 302.208.

2) The standards for pesticide chemical constituents specified in subsection (b)(1) do not apply to groundwater within 10 feet of the land surface if the concentrations of the constituents result from applying pesticides in a manner consistent with the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.) and the Illinois Pesticide Act [415 ILCS 60].

c) Complex Organic Chemical Mixtures

1) Concentrations of the following organic chemical constituents must not be exceeded in Class II groundwater:

CASRN	Constituent	Standard (mg/L)
71-43-2	Benzene[a]	0.025[b]
	Total BETX	13.525[c]

Constituent Name and Groundwater Quality Standard Notations

[a] The constituent meets the definition of a "carcinogen" in Section 620.110.

[b] A treatment factor of 5 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at an 80% removal efficiency rate for the constituent.

[c] The standard is the total combined Class II standard of benzene, ethylbenzene, toluene, and xylenes.

2) Atrazine and Metabolites

Concentration of the following chemical constituents must not be exceeded in Class II groundwater.

CASRN	Constituent Standard	(mg/L)
1912-24-9	Atrazine	0.015[a]
	Total Atrazine and Metabolites	0.015
6190-65-4	DEA (desethyl-atrazine)	
1007-28-9	DIA (desisopropyl-atrazine)	
3397-62-4	DACT (diaminochlorotriazine)	

Constituent Name and Groundwater Quality Standard Notations:

[a] A treatment factor of 5 is applied to the Class I groundwater quality standard. The constituent's treatment efficiency is based on the effectiveness to treat the constituent in the groundwater at an 80% removal efficiency rate for the constituent.

d) pH

Except due to natural causes, a pH range of 6.5 - 9.0 units must not be exceeded in Class II groundwater.

e) No facility that is subject to 35 Ill. Adm. Code 811 or 814 must comply with any requirement or standard of those rules to the extent it incorporates or is otherwise based on any of the following constituents or their standards under this Section:

CASRN	Constituent
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid GenX)
375-73-5	PFBS (perfluorobutanesulfonic acid)
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
335-67-1	PFOA (perfluorooctanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.430 Groundwater Quality Standards for Class III: Special Resource Groundwater

Except due to natural causes, concentrations of inorganic and organic chemical constituents and ranges of pH must not exceed the standards specified in Section 620.410. This prohibition does not apply to:

a) Chemical constituents for which the Board has adopted standards under Section 620.260; or

b) Class III Special Resource Groundwater established under Section 620.230(b) and depicted in the Environmental Register, but only at the dedicated nature preserves identified in this subsection (b), and only for the conditions at those preserves for which standards are specified in this subsection (b).

1) The following standards apply for Pautler Cave Nature Preserve and Stemler Cave Nature Preserve (Environmental Register, May 2005, No. 611), Fogelpole Cave Nature Preserve (Environmental Register, May 2003, No. 587), and Armin Krueger Speleological Nature Preserve (Environmental Register, December 2009, No. 666):

Chloride	20 mg/L
pH	range of 7.0-9.0 Standard Units

2) The following standard applies for Cotton Creek Marsh Nature Preserve and Spring Grove Fen Nature Preserve (Environmental Register, July 2012, No.697):

Chloride	45 mg/L

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.440 Groundwater Quality Standards for Class IV: Other Groundwater

a) Except as provided in subsection (b), (c), (d), or (e), Class IV: Other Groundwater standards are equal to the existing concentrations of constituents in groundwater.

b) For groundwater within a zone of attenuation as defined in 35 Ill. Adm. Code 810.103 and determined in compliance with 35 Ill. Adm. Code 811.320(c), the standards specified in Section 620.420 must not be exceeded. This prohibition does not apply to any concentrations of contaminants within leachate released from a permitted unit.

c) For groundwater within a previously mined area, the standards specified in Section 620.420 must not be exceeded, except the standards are the existing concentrations for TDS, chloride, iron, manganese, sulfates, pH, 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine), nitrobenzene, RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine royal), 1,3,5-trinitrobenzene, and TNT (2,4,6-trinitrotoluene).

d) For groundwater regulated under Part 845, the groundwater protection standard (GWPS) under Section 845.600 must not be exceeded for any constituent with a GWPS under Section 845.600. For any constituent that does not have a GWPS under Section 845.600, the groundwater quality standards (GWQS) of Sections 620.410, 620.420, 620.430 or 620.440(b) and (c) apply.

e) Nothing in this Section limits underground injection in compliance with an underground injection control program administered by the Agency under the Act, by the Department of Natural Resources, Office of Oil and Gas Resource Management under the Illinois Oil and Gas Act [225 ILCS 725], or by USEPA under the federal UIC regulations [40 CFR 144].

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.450 Alternative Groundwater Quality Standards

a) Groundwater Quality Restoration Standards

1) Subsections (a)(3) and (a)(4)(B) apply to all released chemical constituents in groundwater within a groundwater management zone (GMZ) that are the subject of the GMZ approved under Section 620.250(c)(2).

2) Subsection (a)(4)(A) applies to all released chemical constituents in groundwater within a three-dimensional region formerly encompassed by a GMZ that were the subject of the GMZ approved under Section 620.250(c)(2).

3) Before the Agency issues a written determination approving the demonstration of the site owner or operator under Section 620.250(d)(1) or (d)(2), none of the standards specified in Section 620.410, 620.420, 620.430, or 620.440 apply to any released chemical constituent if the owner or operator performs and complies with the schedule for all parts of the GMZ.

4) After the Agency issues a written determination approving the demonstration of the site owner or operator under Section 620.250(d)(1) or (d)(2), the standard for each released chemical constituent is:

   A) The standard specified in Section 620.410, 620.420, 620.430, or 620.440 if the concentration of the constituent, as determined by groundwater monitoring, is less than or equal to the standard for the applicable class of groundwater specified in one of those Sections; or

   B) The concentration of the constituent, as determined by groundwater monitoring, if the concentration exceeds the standard for the otherwise applicable class of groundwater specified in Section 620.410, 620.420, 620.430, or 620.440 and:

      i) To the extent practicable, the exceedance has been minimized and beneficial use, as appropriate for the otherwise applicable class of groundwater, has been returned; and

      ii) Any threat to public health or the environment has been minimized.

5) The Agency must develop and maintain a list of all concentrations derived under subsection (a)(4)(B). For each concentration, the list must identify the location of the corresponding GMZ. On its

website (https://epa.illinois.gov), the Agency must post the list and, at least semi-annually, update it. In addition, at least annually, the Agency must submit the list to the Board for publication in the Environmental Register.

b) Coal Reclamation Groundwater Quality Standards

1) Any inorganic chemical constituent or pH in groundwater, within an underground coal mine, or within the cumulative impact area of groundwater for which the hydrologic balance has been disturbed from a permitted coal mine area under the Surface Coal Mining Land Conservation and Reclamation Act [225 ILCS 720] and 62 Ill. Adm. Code 1700 through 1850, is subject to this subsection (b).

2) Before completion of reclamation at a coal mine, the standards specified in Sections 620.410(a) and (e), 620.420(a) and (e), 620.430, and 620.440 do not apply to inorganic constituents and pH.

3) After completion of reclamation at a coal mine, the standards specified in Sections 620.410(a) and (e), 620.420(a), 620.430, and 620.440 apply to inorganic constituents and pH, except:

A) The concentration of total dissolved solids (TDS) must not exceed:

i) The post-reclamation concentration of TDS or 3000 mg/L, whichever is less, for groundwater within the permitted area; or

ii) The post-reclamation concentration of TDS or 5000 mg/L, whichever is less, for groundwater in underground coal mines and in permitted areas reclaimed after surface coal mining if the Illinois Office of Mines and Minerals, Department of Natural Resources and the Agency have determined that no significant resource groundwater existed before mining (62 Ill. Adm. Code 1780.21(f) and (g)).

B) The concentration of chloride, iron, manganese, and sulfate, must not exceed the post-reclamation concentration within the permitted area.

C) pH must not exceed the post-reclamation concentration within the permitted area in Class I: Potable Resource

Groundwater described in Section 620.210(a)(4).

D) The concentration of 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine), nitrobenzene, RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine), 1,3,5-trinitrobenzene, and TNT (2,4,6-trinitrotoluene) must not exceed the post-reclamation concentration within the permitted area.

4) A refuse disposal area (not contained within the area from which overburden has been removed) is subject to the inorganic chemical constituent and pH requirements of:

A) 35 Ill. Adm. Code 302.Subparts B and C, except due to natural causes, for an area that began operating after February 1, 1983, and before November 25, 1991, if the groundwater is a present or potential source of water for public or food processing;

B) Section 620.440(c) for an area that began operating before February 1, 1983, and has remained in continuous operation since that date; or

C) Subpart D for an area that begins operating on or after November 25, 1991.

5) For a refuse disposal area (not contained within the area from which overburden has been removed) that began operating before February 1, 1983, and is modified after that date to include additional area, this subsection (b) applies to the area that complies with subsection (b)(4)(C) and the following applies to the additional area:

A) 35 Ill. Adm. Code 302.Subparts B and C, except due to natural causes, for an additional refuse disposal area that began operating after February 1, 1983, and before November 25, 1991, if the groundwater is a present or potential source of water for public or food processing; and

B) Subpart D for an additional area that began operating on or after November 25, 1991.

6) A coal preparation plant (not in an area from which overburden has been removed) that contains slurry material, sludge, or other precipitated process material is subject to the inorganic chemical

constituent and pH requirements of:

A) 35 Ill. Adm. Code 302.Subparts B and C, except due to natural causes, for a plant that began operating after February 1, 1983, and before November 25, 1991, if the groundwater is a present or potential source of water for public or food processing;

B) Section 620.440(c) for a plant that began operating before February 1, 1983, and has remained in continuous operation since that date; or

C) Subpart D for a plant that begins operating on or after November 25, 1991.

7) For a coal preparation plant (not in an area from which overburden has been removed) that contains slurry material, sludge, or other precipitated process material, began operating before February 1, 1983, and is modified after that date to include additional area, this subsection (b) applies to the area that complies with subsection (b)(6)(C) and the following applies to the additional area:

A) 35 Ill. Adm. Code 302.Subparts B and C, except due to natural causes, for an additional area that began operating after February 1, 1983, and before November 25, 1991, if the groundwater is a present or potential source of water for public or food processing; and

B) Subpart D for an additional area began operating on or after November 25, 1991.

c) Groundwater Quality Standards for Specified Groundwater Subject to a No Further Remediation Letter under the Site Remediation Program (35 Ill. Adm. Code 740). While a No Further Remediation Letter is in effect for a region formerly encompassed by a GMZ established under 35 Ill. Adm. Code 740.530, the applicable groundwater quality standards for the specified "contaminants of concern", as defined in 35 Ill. Adm. Code 740.120, within that area are the groundwater objectives achieved as documented in the approved Remedial Action Completion Report.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

SUBPART E: GROUNDWATER MONITORING AND ANALYTICAL PROCEDURES

Section 620.505 Compliance Determination

a) Except as this Part provides otherwise, compliance with the standards of this Part at a site is to be determined as follows:

1) For a structure (e.g., buildings), at the closest practicable distance beyond the outermost edge of the structure.

2) For groundwater that underlies a potential primary or secondary source, the outermost edge as specified in Section 620.240(e)(1).

3) For groundwater that underlies a coal mine refuse disposal area, a coal combustion waste disposal area, or an impoundment that contains sludge, slurry, or precipitated process material at a coal preparation plant, the outermost edge as specified in Section 620.240(f)(1) or the location of monitoring wells in existence as of November 25, 1991, on a permitted site.

4) For a groundwater management zone, as specified in a corrective action process.

5) For groundwater, any point where monitoring is conducted using a water well or a monitoring well that meets one of the following conditions:

A) For a potable water supply well if:

i) Geologic logs exist for this well;

ii) Geologic logs in the immediate 1,000-foot area of this well are representative of the hydrogeologic materials encountered by this well as determined by a licensed professional geologist or a licensed professional engineer; or

iii) A WHPA has been delineated in compliance with the "Guidance Document for Groundwater Protection Needs Assessments" and "The Illinois Wellhead Protection Program", incorporated by reference in Section 620.125.

B) For a potable water supply well other than a community water supply well, a construction report has been filed with the Department of Public Health for the potable well, or the well has been located and constructed (or reconstructed) to meet the Illinois Water Well Construction Code [415 ILCS

30] and 77 Ill. Adm. Code 920.

C) For a potable water supply well that was constructed before August 20, 1965, the well meets the following criteria:

i) Construction must be done in a manner that will enable the collection of groundwater samples that represent in situ groundwater conditions;

ii) Casings and screens must be made from durable material resistant to expected chemical or physical degradation that do not interfere with the quality of groundwater samples being collected; and

iii) The annular space opposite the screened section of the well (i.e., the space between the bore hole and well screen) must be filled with gravel or sand if necessary to collect groundwater samples. The annular space above and below the well screen must be sealed to prevent migration of water from adjacent formations and the surface to the sampled depth.

D) For a community water supply well, the well has been permitted by the Agency or constructed in compliance with 35 Ill. Adm. Code 602.115.

E) For a water well other than a potable water supply well (e.g., a livestock watering well or an irrigation well), a construction report has been filed with the Department of Public Health or the Office of Mines and Minerals in the Department of Natural Resources for the well, or the well has been located and constructed (or reconstructed) to meet the Illinois Water Well Construction Code [415 ILCS 30] and 35 Ill. Adm. Code 920.

F) For a monitoring well, the well meets the following requirements:

i) Construction must be done in a manner that will enable the collection of groundwater samples;

ii) Casings and screens must be made from durable material resistant to expected chemical or physical degradation that do not interfere with the quality of groundwater samples being collected; and

iii) The annular space opposite the screened section of the well (i.e., the space between the bore hole and well screen) must be filled with gravel or sand if necessary to collect groundwater samples. The annular space above and below the well screen must be sealed to prevent migration of water from adjacent formations and the surface to the sampled depth.

6) Monitoring must not be conducted for compliance determinations under subsection (a):

A) Using a water well that is:

i) Less than 15 feet in total depth from the land surface,

ii) bored or dug,

iii) constructed of permeable materials (e.g., cement, tile, stone, or brick), and

iv) 36 inches or more in diameter.

B) Using a water well with water quality problems due to damaged well-construction materials or poorly designed well construction;

C) Using a water well in a basement or pit; or

D) Using water-well water from a holding tank.

b) For a spring, compliance with this Subpart must be determined at the point of emergence.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.510 Monitoring and Analytical Requirements

a) Representative Samples
A representative sample must be taken from locations as specified in Section 620.505.

b) Sampling and Analytical Procedures

1) Samples must be collected in compliance with the procedures specified in the documents pertaining to groundwater monitoring and analysis incorporated by reference in Section 620.125 or other procedures adopted by the appropriate regulatory agency.

2) Groundwater elevation in a groundwater monitoring well must be determined and recorded when necessary to determine the gradient.

3) Except as specified in other regulations, statistical methods used to determine naturally occurring groundwater quality background concentrations of contaminants must be conducted in compliance with "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, (March 2009 Unified Guidance)", incorporated by reference in Section 620.125, for use with prediction limits and all other statistical tests, including confidence limits and control charts.

4) The analytical methodology used for analyzing constituents specified in Subparts C and D must comply with the following:

A) The methodology must have an LLOQ or LCMRL at or below the preventive response level of Subpart C or the groundwater standard of Subpart D, whichever applies; and

B) "Methods for Chemical Analysis of Water and Wastes", "Methods for the Determination of Inorganic Substances in Environmental Samples", "Methods for the Determination of Metals in Environmental Samples", "Methods for the Determination of Organic Compounds in Drinking Water", "Methods for the Determination of Organic Compounds in Drinking Water, Supplement I", "Methods for the Determination of Organic Compounds in Drinking Water, Supplement II", "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", "Methods for the Determination of Organic and Inorganic Compounds in Drinking Water", "Prescribed Procedures for Measurement of Radioactivity in Drinking Water", "Procedures for Radiochemical Analysis of Nuclear Reactor Aqueous Solutions", "Radiochemical Analytical Procedures for Analysis of Environmental Samples", "Radiochemistry Procedures Manual", "Practical Guide for Ground Water Sampling", "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (SW-846), 40 CFR 136, appendix B, 40 CFR 141.80, 40 CFR 141.61, and 40 CFR 141.62, "Techniques of Water Resources

Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground Water Samples for Selected Unstable Constituents", "Practical Guide for Ground-Water Sampling", "Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents", or other procedures incorporated by reference in Section 620.125.

C) When sampling for Hexafluoropropylene oxide dimer acid (HFPO-DA), Perfluorobutanesulfonic acid (PFBS), Perfluorohexanesulfonic acid (PFHxS), Perfluorononanoic acid (PFNA), Perfluorooctanoic acid (PFOA), or Perfluorooctanesulfonic acid (PFOS), the incorporations by reference in Section 620.125 that apply for sample collection, preservation, storage, and analysis are:

"Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent, and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) ASTM D7979-20;

U.S. EPA, Office of Ground Water and Drinking Water, Standards and Risk Management Division. "Method 533: Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry," November 2019. https://www.epa.gov/sites/default/files/2019-12/documents/method-533-815b19020.pdf; and

U.S. EPA, Office of Research and Development, Center for Environmental Solutions & Emergency Response. Shoemaker, J. and Dan Tettenhorst, Method 537.1: Determination of selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass spectrometry (LC/MS/MS). U.S. Environmental Protection Agency, Office of Research and Development,

Center for Environmental Assessment, Washington, DC. Version 2.0, March 2020.

c) Reporting Requirements
Groundwater monitoring analytical results must include information, procedures, and techniques for:

1) Sample collection (including name of sample collector, time and date of the sample, method of collection, and identification of the monitoring location);

2) Sample preservation and shipment (including field quality control);

3) Analytical procedures (including the MDL, LLOQ, or LCMRL); and

4) Chain of custody control.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

SUBPART F: HEALTH ADVISORIES

Section 620.601 Purpose of a Health Advisory

This Subpart establishes procedures for issuing a Health Advisory that specifies guidance levels that, in the absence of standards in Section 620.410, must be considered by the Agency in:

a) Establishing groundwater cleanup or action levels when there is a release or substantial threat of a release of:

1) A hazardous substance or pesticide; or

2) Any other contaminant that represents a significant hazard to public health or the environment.

b) Determining whether a community water supply is taking its raw water from a site or source in compliance with the siting and source water requirements of 35 Ill. Adm. Code 604.200.

c) Developing Board rulemaking proposals for new or revised numerical standards.

d) Evaluating mixtures of chemical substances.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.605 Issuance of a Health Advisory

a) The Agency must issue a Health Advisory for a chemical substance if the following conditions are met:

1) A community water supply well is sampled and the chemical substance is detected and confirmed by resampling;

2) There is no standard in Section 620.410 for the chemical substance; and

3) The chemical substance is toxic or harmful to human health according to the procedures specified in Appendix A, B, or C.

b) The Health Advisory must contain a general description of the characteristics of the chemical substance, the potential adverse health effects, and a guidance level to be determined as follows:

1) If disease or functional impairment is caused due to a physiological mechanism for which there is a threshold dose below which no damage occurs, the guidance level for the chemical substance is the Maximum Contaminant Level Goal (MCLG) adopted by USEPA for the substance, 40 CFR 136, appendix B, 40 CFR 141.80, 40 CFR 141.61, and 40 CFR 141.62, incorporated by reference in Section 620.125.

2) If there is no MCLG for the chemical substance, the guidance level is either the Human Threshold Toxicant Advisory Concentration (HTTAC) or Human Nonthreshold Toxicant Advisory Concentration (HNTAC) for the substance as determined in compliance with Appendix A, whichever is less, unless the lower concentration is less than the substance's lowest appropriate LLOQ specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 (SW-846), incorporated by reference in Section 620.125, or the substance's lowest appropriate LCMRL specified in the drinking water methods incorporated by reference in Section 620.125.

3) If the lower concentration between the HTTAC and HNTAC of the chemical substance under subsection (b)(2) is less than its lowest appropriate LLOQ or LCMRL, the guidance level is the lowest appropriate LLOQ or LCMRL.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.610 Publishing Health Advisories

a) The Agency must publish the full text of each Health Advisory upon issuance and make the document available to the public.

b) The Agency must publish and make available to the public, at intervals of not more than 6 months, a comprehensive and up-to-date summary list of all Health Advisories.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.615 Additional Health Advice for Mixtures of Similar-Acting Substances

a) The Agency must determine the need for additional health advice appropriate to site-specific conditions when mixtures of chemical substances are detected and two or more of the chemical substances are similar-acting in their toxic or harmful physiological effect on the same specific organ or organ system.

b) If mixtures of similar-acting chemical substances are present, the procedure for evaluating the mixture of the substances is specified in Appendices A, B, and C.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX A Procedures for Determining Human Toxicant Advisory Concentrations for Class I: Potable Resource Groundwater

a) Calculating the Human Toxicant Advisory Concentration for Noncancer Effects

If USEPA has not adopted a Maximum Contaminant Level Goal (MCLG) for a substance, the Human Threshold Toxicant Advisory Concentration for the substance is calculated as follows:

$$HTTAC = \frac{RSC \bullet ADE}{W}$$

Where:

HTTAC = Human Threshold Toxicant Advisory Concentration in milligrams per liter (mg/L);

RSC = Relative contribution of the amount of the exposure to a chemical via drinking water when compared to the total exposure to that chemical from all sources. Valid chemical-specific data must be used if available. If valid chemical-specific data are not available, a value of 20% (= 0.20) must be used;

ADE = Acceptable Daily Exposure of substance in milligrams per day (mg/d) as determined under subsection (b); and

W = Per capita daily water consumption for a child (0-6 years of age), equal to 0.78 liters per day (L/d).

b) Procedures for Determining Acceptable Daily Exposures for Class I: Potable Resource Groundwater

1) The Acceptable Daily Exposure (ADE) represents the maximum amount of a threshold toxicant in milligrams per day (mg/d) that, if ingested daily by a child from 0-6 years of age, results in no adverse effects. Subsections (b)(2) through (b)(6) list, in prescribed order, methods for determining the ADE in Class I: Potable Resource Groundwater.

2) If the noncancer toxicity value of a substance has been derived and presented in milligrams per kilogram per day (mg/kg/day), the ADE of the substance equals the product of multiplying the toxicity value by 15 kilograms (kg), which is the assumed average weight of a child 0 to 6 years of age.

3) If the oral reference dose of a substance is not available, the ADE of the substance equals the value of the most sensitive Point of Departure (POD) as determined by Benchmark Dose Modeling or the NOAEL/LOAEL approach consistent with current USEPA RfD guidance, followed by the derivation of a Human Equivalent Dose (HED) using physiologically based pharmacokinetic (PBPK) modeling or Dose Adjustment Factor (DAF), then divided by the total Uncertainty Factor (UF) and modifying factor (MF), if applicable. The value is then multiplied by 15 kg (the assumed average weight of a child 0-6 years of age). The equation is as follows:

$$ADE = \frac{POD}{UF} \bullet 15kg$$

4) Uncertainty Factors must be applied to the Point of Departure (POD) in increments of 1, 3, or 10, not to exceed a total UF of 10,000, and must be used consistent with USEPA guidance. A composite UF of 3 and 10 must be expressed as 30. A composite UF of 3 and 3 must be expressed as 10. UFs may be used to account for the following:

A) Interspecies Variability

B) Intraspecies Variability

C) Lowest Observable Adverse Effects Level (LOAEL) to No Observerd Adverse Effects Level (NOAEL) Uncertainty

D) Database Deficiencies

E) Subchronic to Chronic Duration

c) Procedures for Establishing Validity of Data from Animal Studies

1) High Validity Studies

A) High validity studies use a route of exposure by ingestion or gavage, and are based upon:

i) Data from animal carcinogenicity studies with a minimum of 2 dose levels and a control group, 2 species, both sexes, with 50 animals per dose per sex, and at least 50 percent survival at 15 months in mice and 18 months in rats and at least 25 percent survival at 18 months in mice and 24 months in rats;

ii) Data from animal chronic studies with a minimum of 3 dose levels and a control group, 2 species, both sexes, with 40 animals per dose per sex, and at least 50 percent survival at 15 months in mice and 18 months in rats and at least 25 percent survival at 18 months in mice and 24 months in rats, and a well-defined NOAEL; or

iii) Data from animal subchronic studies with a minimum of 3 dose levels and control, 2 species, both sexes, 4 animals per dose per sex for non-rodent species or 10 animals per dose per sex for

rodent species, a duration of at least 5% of the test species' lifespan, and a well-defined NOAEL.

B) Supporting studies that reinforce the conclusions of a study of Medium Validity may be considered to raise the study to High Validity.

2) Medium Validity Studies
Medium validity studies are based upon:

A) Data from animal carcinogenicity, chronic, or subchronic studies in which minor deviations from the study design elements required for a High Validity Study are found, but that otherwise satisfy the standards for a High Validity Study;

B) Data from animal carcinogenicity and chronic studies in which at least 25 percent survival is reported at 15 months in mice and 18 months in rats (a lesser survival is permitted at the conclusion of a longer duration study but the number of surviving animals must not fall below 20 percent per dose per sex at 18 months for mice and 24 months for rats), but that otherwise satisfy the standards for a High Validity Study;

C) Data from animal subchronic or chronic studies in which a Lowest Observable Adverse Effect Level (LOAEL) is determined, but that otherwise satisfy the standards for a High Validity Study; or

D) Data from animal subchronic or chronic studies that have an inappropriate route of exposure (e.g., intraperitoneal injection or inhalation), but that otherwise satisfy the standards for a High Validity Study, with correction factors for conversion to the oral route.

3) Low Validity Studies
Low validity studies are studies not meeting the standards specified in subsection (c)(1) or (c)(2).

d) Calculating a Human Nonthreshold Toxicant Advisory Concentration (HNTAC) for Cancer Risk
The Human Nonthreshold Toxicant Advisory Concentration (HNTAC) is calculated as follows:

1) If USEPA has designated a chemical as a "mutagen", the HNTAC

of the chemical is calculated as follows:

$$HNTAC = \frac{TR \bullet \left(AT \bullet 365 \frac{days}{year}\right)}{SF_o \bullet IFWM_{adj}}$$

Where:

HNTAC = Human Nonthreshold Toxicant Advisory Concentration, equal to milligrams per liter (mg/L)

TR = Target Cancer Risk, equal to one-in-one million cancer risk (1E-06)

AT = Averaging Time, equal to 70 years

SF_o = Oral Slope Factor (chemical-specific), equal to $(mg/kg\text{-}day)^{-1}$

$IFWM_{adj}$ = Age-Adjusted Mutagenic Drinking Water Ingestion Rate, equal to 1,019.0 liters per kilogram (L/kg)

2) If USEPA has not designated a chemical as a "mutagen", the HNTAC of the chemical is calculated as follows:

$$HNTAC = \frac{TR \bullet \left(AT \bullet 365 \frac{days}{year}\right)}{SF_o \bullet IFW_{adj}}$$

Where:

HNTAC = Human Nonthreshold Toxicant Advisory Concentration, equal to milligrams per liter (mg/L)

TR = Target Cancer Risk, equal to one-in-one million cancer risk (1E-06)

AT	=	Averaging Time, equal to 70 years
SF_o	=	Oral Slope Factor (chemical-specific), equal to $(mg/kg\text{-}day)^{-1}$
$IFWM_{adj}$	=	Age-Adjusted Mutagenic Drinking Water Ingestion Rate, equal to 327.95 liters per kilogram (L/kg)

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX B Procedures for Determining Hazard Indices for Class I: Potable Resource Groundwater for Mixtures of Similar-Acting Substances

a) This appendix describes procedures for evaluating mixtures of similar-acting substances that may be present in Class I: Potable Resource Groundwaters. Except as provided otherwise in subsection (c), subsections (d) through (h) describe the procedure for determining the Hazard Index for mixtures of similar-acting substances.

b) For this appendix, a "mixture" means two or more substances present in Class I: Potable Resource Groundwater that may or may not be related either chemically or commercially but are not complex mixtures of related isomers and congeners produced as commercial products (e.g., PCBs or technical grade chlordane).

c) The substances specified in Section 620.Appendix E are similar-acting substances.

d) When two or more substances occur together in a mixture, the additivity of the toxicities of some or all of the substances must be considered when determining health-based standards for Class I: Potable Resource Groundwater. This is done by using a dose addition model with the development of a Hazard Index for the mixture of substances with similar-acting toxicities. This method does not address synergism or antagonism. Guidelines for determining when the dose addition of similar-acting substances is appropriate are presented in Appendix C. The Hazard Index is calculated as follows:

$$HI = [A]/ALA + [B]/ALB + \ldots [I]/ALI$$

Where:

HI	=	Hazard Index, unitless.
[A], [B], [I]	=	Concentration of each similar-acting substance in groundwater in milligrams per liter (mg/L).
ALA, ALB, ALI	=	The acceptable level of each similar-acting substance in the mixture in milligrams per liter (mg/L).

e) For a substance with a threshold mechanism of toxicity, the substance's acceptable level in subsection (d) is:

1) The substance's standard specified in Section 620.410; or

2) The substance's Human Threshold Toxicant Advisory Concentration (HTTAC) as determined in Appendix A, if the substance has no standard specified in Section 620.410.

f) For a carcinogenic substance, the substance's acceptable level in subsection (d) is:

1) The substance's standard specified in Section 620.410; or

2) If a substance has no standard specified in Section 620.410, the substance's one-in-one-million cancer risk concentration, unless that concentration is less than the substance's lowest appropriate LLOQ specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846, incorporated by reference in Section 620.125, or the substance's lowest appropriate LCMRL specified in the drinking water methods incorporated by reference in Section 620.125. If the one-in-one-million cancer risk concentration is less than the lowest appropriate LLOQ or LCMRL, the acceptable level of the is the lowest appropriate LLOQ or LCMRL.

g) Because the assumption of dose addition is most properly applied to substances that induce the same effect by similar modes of action, a separate Hazard Index must be generated for each toxicity endpoint of concern.

h) In addition to meeting the individual substance objectives, a Hazard Index must be less than or equal to 1 for a mixture of similar-acting substances.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX C Guidelines for Determining When Dose Addition of

Similar-Acting Substances in Class I: Potable Resource Groundwaters is Appropriate

a) Substances must be considered similar-acting if:

1) The substances have the same target in an organism (e.g., the same organ, organ system, receptor, or enzyme); or

2) The substances have the same mode of toxic action. These actions may include, for example, central nervous system depression, liver toxicity, and cholinesterase inhibition.

b) Substances that have fundamentally different mechanisms of toxicity (threshold toxicants vs. carcinogens) must not be considered similar-acting. However, carcinogens that also cause a threshold toxic effect must be considered in a mixture with other similar-acting substances having the same threshold toxic effect. In that case, an acceptable level of the carcinogen must be derived for its threshold effect, using the procedures specified in Appendix A.

c) Substances that are components of a complex mixture of related compounds produced as commercial products (e.g., PCBs or technical grade chlordane) are not mixtures, as defined in Appendix B. These complex mixtures are equivalent to a single substance. In that case, the Human Threshold Toxicant Advisory Concentration (HTTAC) must be derived for threshold effects of the complex mixture, using the procedures specified in Appendix A, if valid toxicological or epidemiological data are available for the complex mixture. If the complex mixture is a carcinogen, the Human Nonthreshold Toxicant Advisory Concentration (HNTAC) is the one-in-one-million cancer risk concentration, calculated from methods located at Appendix A. The guidance level is either the HTTAC or HNTAC, whichever is less, unless the lower concentration is less than the substance's lowest appropriate LLOQ specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846, incorporated by reference in Section 620.125, or the substance's lowest appropriate LCMRL specified in the drinking water methods incorporated by reference in Section 620.125. If the lower concentration between the HTTAC and HNTAC of the substance is less than its lowest appropriate LLOQ or LCMRL, the guidance level is the lowest appropriate LLOQ or LCMRL.

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX D Information Required for Groundwater Management Zone Application under 35 Ill. Adm. Code 620.250(b) and Corrective Action Completion Certification under 35 Ill. Adm. Code 620.250(d)

Within any class of groundwater, a groundwater management zone (GMZ) may be established as a three-dimensional region containing groundwater being managed to mitigate impairment caused by a release of one or more contaminants that is subject to a corrective action process approved by the Illinois Environmental Protection Agency (Agency). See 35 Ill. Adm. Code 620.250(a). A GMZ cannot be established before the site owner or operator submits a GMZ application to the Agency under 35 Ill. Adm. Code 620.250(b). A GMZ is not established until the Agency issues a written approval of the GMZ, including its corrective action process, under 35 Ill. Adm. Code 620.250(c)(2).

When an owner or operator completes the Agency-approved corrective action, the owner or operator must submit to the Agency appropriate documentation under 35 Ill. Adm. Code 620.250(d), including the information required for a corrective action completion certification. A GMZ is terminated when the Agency issues a written determination to that effect under 35 Ill. Adm. Code 620.250(c)(2)(i), (c)(2)(ii), (d)(1), or (f).

Note 1. Parts I, II, and III of this Appendix D specify the information required for the GMZ application that the owner or operator submits to the Agency. See 35 Ill. Adm. Code 620.250(b). Part IV of this Appendix D specifies the information required for the corrective action completion certification that the owner or operator submits to the Agency. See 35 Ill. Adm. Code 620.250(d). The owner or operator is neither required to use the form specified in Part I, II, III, or IV of this Appendix D nor precluded from including information in addition to that required by this Appendix D. See 35 Ill. Adm. Code 620.250(b)(2), (b)(3), (d).

Note 2. The issuance of a permit by the Agency's Division of Air Pollution Control or Water Pollution Control for a treatment system does not imply that the Agency has approved any corrective action process.

Note 3. Parts I, II, and III of this Appendix D are not for use in establishing a GMZ under the Site Remediation Program (35 Ill. Adm. Code 740). See 35 Ill. Adm. Code 620.250(h).

Note 4. If the GMZ would extend off-site, the GMZ application must include each off-site property owner's written permission to the establishment of the GMZ on its property. If effectively implementing the off-site portion of the GMZ requires accessing an off-site property, the GMZ application must also include the off-site property owner's written permission for that access. If the applicable written permission or permissions from an off-site property owner are not obtained—whether permission to establish the GMZ off-site, access the off-site property, or both-- the GMZ will not include that off-site property. See 35 Ill. Adm. Code 620.250(b)(1).

Note 5. If a response to any item in this Appendix D requires additional explanation or clarification, provide it in an attachment to the submittal.

Part I; Facility Information

Facility Name _____

Facility Address _____

County _____

Standard Industrial Code (SIC) _____

1. Provide a general description of the type of industry and the facility's location and size, as well as the products manufactured and raw materials used at the facility.

2. What specific units (operating or closed) are present at the facility that are or were used to manage waste, hazardous waste, hazardous substances, or petroleum? Include units regardless of whether they are considered sources of groundwater contamination.

	YES	NO
Landfill		
Surface Impoundment		
Land Treatment		
Spray Irrigation		
Waste Pile		
Incinerator		
Storage Tank (above ground)		
Storage Tank (underground)		
Container Storage Area		
Injection Well		
Water Treatment Units		
Septic Tanks		
French Drains		
Transfer Station		
Other Units (describe)		

3. Provide an extract from a USGS topographic or county map showing the location of the site. Provide a more detailed scaled map of the facility identifying each unit checked "yes" in item 2 and each known or suspected release source. Map scale must be specified and the Township, Range, and Section of the facility must be provided. Also provide engineering drawings showing the facility and units at the facility.

4. Has the facility ever conducted operations that involved the generation, manufacture, processing, transportation, treatment, storage, or handling of "hazardous substances" as defined by the Illinois Environmental Protection Act? Yes ___No ___ If the answer to this question is "yes", generally describe these operations.

5. Has the facility ever generated, stored, or treated "hazardous waste" as defined by the Resource Conservation and Recovery Act (RCRA)? Yes ___ No ___If the answer to this question is "yes", generally describe these operations.

6. Has the facility ever conducted operations that involved the processing, storage, or handling of petroleum? Yes ___No ____If the answer to this question is "yes", generally describe these operations.

7. Has the facility ever held any of the following permits?

    a. Permits for any waste storage, waste treatment, or waste disposal operation. Yes ___ No ___ If the answer to this question is "yes", identify the IEPA permit number or numbers.

    b. Interim Status under RCRA (filing of a RCRA Part A application). Yes ___ No ___ If the answer to this question is "yes", attach a copy of the last approved RCRA Part A application.

    c. RCRA Part B permits. Yes ___ No ___ If the answer to this question is "yes", identify the permit log number or numbers.

8. Has the facility ever conducted the closure of a RCRA hazardous waste management unit? Yes ___ No ___

9. Have any of the following State or federal government actions taken place for a release at the facility?

    a. Written notification regarding known, suspected, or alleged contamination at the property (e.g., a Notice under Section 4(q) or Section 31(a) or (b) of the Illinois Environmental Protection Act)? Yes ___ No ___ If the answer to this question is "yes", identify notice's caption and date of issuance.

    b. Consent Decree or Order under RCRA, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 22.2 of the Illinois Environmental Protection Act (State Superfund), or Section 21(f) of the Illinois Environmental Protection Act (State RCRA). Yes ___ No ___

c. If either item 9(a) or 9(b) is answered "yes", is the notice, order, or decree still in effect? Yes ___ No ___

10. Provide a statement of the classification or classifications of groundwater at the facility.

    Class I ____ Class II ___ Class III ____ Class IV ____
    If more than one Class applies, explain.

11. What classification will the groundwater within the proposed groundwater management zone be subject to at the completion of the remediation?

    Class I ____ Class II ___ Class III ____ Class IV ____
    If more than one Class applies, explain.

12. Describe the circumstances under which the release to groundwater was identified.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate.

Facility Name	Signature of Owner/Operator
Location of Facility	Name of Owner/Operator
EPA Identification Number	Date

Part II: Release Information

1. Identify the chemical constituents released to the groundwater. Attach additional documents as necessary.

Chemical Description	Chemical Abstract No.

2. Describe how the site will be investigated to determine the source or sources of the release.

3. Describe how groundwater will be monitored to determine the rate and extent of the release, and whether the release has migrated off-site.

4. Has the release been contained on-site?

5. Describe the groundwater monitoring network and groundwater and soil sampling protocols in place at the facility.

6. Provide the schedule for investigating the extent of the release and for monitoring.

7. Describe the laboratory quality assurance program used for the investigation.

8. Provide the results of available soil testing and groundwater monitoring associated with the release, along with a summary of those results. Include the following information: dates of sampling; types of samples taken (soil or water); locations and depths of samples; monitoring well construction details with well logs; sampling and analytical methods; analytical laboratories used; chemical constituents for which analyses were performed; analytical detection limits; and concentrations of chemical constituents in parts per million or "ppm" (levels below detection must be identified as non-detect or "ND").

9. Provide scaled drawings identifying the horizontal and vertical boundaries of the proposed groundwater management zone.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of knowledge and belief, true and accurate and confirm that the actions identified in this submittal will be performed in compliance with the schedule in this submittal.

Facility Name	Signature of Owner/Operator
Location of Facility	Name of Owner/Operator
EPA Identification Number	Date

Part III: Remedy Selection Information

1. Describe the selected remedy and why it was chosen. Include a description of the fate and transport of contaminants with the selected remedy over time.

2. Describe other remedies that were considered and why they were rejected.

3. Will waste, contaminated soil, or contaminated groundwater be removed from the site during this remediation? Yes ___ No ___ If the answer to this

question is "yes", where will the contaminated material be taken?

4. Describe how the selected remedy will accomplish the maximum practicable restoration of beneficial use of groundwater.

5. Describe how the selected remedy will minimize any threat to public health or the environment.

6. Describe how the selected remedy will result in compliance with the standards for the applicable class or classes of groundwater. Include the results of groundwater contaminant transport modeling or calculations showing how the selected remedy will achieve compliance with these standards.

7. Provide a schedule for design, construction, and operation of the remedy, including dates for the start and completion.

8. Describe how the remedy will be operated and maintained.

9. Have any of the following permits been issued for the remediation?

    a. Construction or operating permit from the Agency's Division of Water Pollution Control. Yes __ No ___ If the answer to this question is "yes", identify the permit number or numbers.

    b. Land treatment permit from the Agency's Division of Water Pollution Control. Yes ___ No ___ If the answer to this question is "yes", identify the permit number or numbers.

    c. Construction or operating permit from the Agency's Division of Air Pollution Control. Yes ___ No ___ If the answer to this question is "yes", identify the permit number or numbers.

10. How will groundwater within the proposed groundwater management zone be monitored after completion of the remedy to ensure compliance with the standards for the applicable class or classes of groundwater?

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate and confirm that the actions identified in this submittal will be performed in compliance with the schedule in this submittal.

Facility Name	Signature of Owner/Operator
Location of Facility	Name of Owner/Operator
EPA Identification Number	Date

Part IV: Corrective Action Completion Certification

This certification must accompany documentation that includes soil and groundwater monitoring data demonstrating completion of the corrective action.

Facility Name _____

Facility Address _____

_____

County _____

Standard Industrial Code (SIC) _____

Date _____

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the corrective action approved by the Illinois Environmental Protection Agency has been completed and the following concentrations of released chemical constituents remain in groundwater within the groundwater management zone:

Chemical Name	Chemical Abstract No.	Concentration (mg/L)

Facility Name	Signature of Owner/Operator
Location of Facility	Name of Owner/Operator

EPA Identification Number Date

(Source: Amended at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX E Similar-Acting Substances

620.TABLE A Similar-Acting Noncarcinogenic Constituents

Cholinesterase Inhibition

116-06-3	Aldicarb
1563-66-2	Carbofuran

Circulatory System

15972-60-8	Alachlor
7440-36-0	Antimony
1912-24-9	Atrazine
71-43-2	Benzene
94-75-7	2,4-D (2,4-dichlorophenoxy acetic acid)
121-14-2	2,4-Dinitrotoluene
206-44-0	Fluoranthene
86-73-7	Fluorene
98-95-3	Nitrobenzene
122-34-9	Simazine
100-42-5	Styrene
79-01-6	Trichloroethylene
99-35-4	1,3,5-Trinitrobenzene
7440-66-6	Zinc

Decreased Body Weight

75-71-8	Dichlorodifluoromethane
84-66-2	Diethyl phthalate
95-48-7	2-Methylphenol (*o*-cresol)
91-20-3	Naphthalane
7440-02-0	Nickel
108-95-2	Phenol
122-34-9	Simazine
71-55-6	1,1,1-Trichloroethane
1330-20-7	Xylenes

Developmental

7429-90-5	Aluminum
50-32-8	Benzo(a)pyrene
7440-42-8	Boron
78-93-3	2-Butanone (methyl ethyl ketone)

75-15-0	Carbon disulfide
78-87-5	1,2-Dichloropropane
84-66-2	Diethyl phthalate
88-85-7	Dinoseb
7439-93-2	Lithium
375-73-5	PFBS (perfluorobutanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)
335-67-1	PFOA (perfluorooctanoic acid)

Endocrine System

106-93-4	Ethylene dibromide (1,2-dibromoethane)
120-82-1	1,2,4-Trichlorobenzene

Gastrointestinal System

7440-41-7	Beryllium
7440-50-8	Copper
145-73-3	Endothall
77-47-4	Hexachlorocyclopentadiene
7439-89-6	Iron
1634-04-4	MTBE (methyl tertiary-butyl-ether)

Immune System

156-60-5	*trans*-1,2-Dichloroethylene
58-89-9	*gamma*-HCH (*gamma*-hexachlorocyclohexane, lindane)
7487-94-7	Mercury (mercuric chloride)
76-44-8	Heptachlor
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-95-1	PFNA (perfluorononanoic acid)
1763-23-1	PFOS (perfluorooctanesulfonic acid)
335-67-1	PFOA (perfluorooctanoic acid)

Kidney

7440-39-3	Barium
7440-43-9	Cadmium
94-75-7	2,4-D (2,4-dichlorophenoxy acetic acid)
75-99-0	Dalapon
75-34-3	1,1-Dichloroethane
107-06-2	1,2-Dichloroethane
156-59-2	*cis*-1,2-Dichloroethylene
123-91-1	1,4-Dioxane (*p*-dioxane)
206-44-0	Fluoranthene
98-82-8	Isopropylbenzene (cumene)

7439-93-2	Lithium
93-65-2	MCPP (mecoprop)
7487-94-7	Mercury (mercuric chloride)
7439-98-7	Molybdenum
129-00-0	Pyrene
108-88-3	Toluene
7440-62-2	Vanadium

Liver

83-32-9	Acenaphthene
319-84-6	*alpha*-BHC (*alpha*-benzene hexachloride)
56-23-5	Carbon Tetrachloride
12789-03-6	Chlordane
108-90-7	Chlorobenzene
67-66-3	Chloroform
94-75-7	2,4-D (2,4-dichlorophenoxy acetic acid)
106-46-7	*p*-Dichlorobenzene (1,4-dichlorobenzene)
75-35-4	1,1-Dichloroethylene
75-09-2	Dichloromethane (methylene chloride)
117-81-7	Di(2-ethylhexyl)phthalate
121-14-2	2,4-Dinitrotoluene
123-91-1	1,4-Dioxane (*p*-dioxane)
72-20-8	Endrin
100-41-4	Ethylbenzene
106-93-4	Ethylene dibromide (1,2-dibromoethane)
206-44-0	Fluoranthene
13252-13-6	HFPO-DA (hexafluoropropylene oxide dimer acid, GenX)
2691-41-0	HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)
1024-57-3	Heptachlor Epoxide
1634-04-4	MTBE (methyl tertiary-butyl ether)
87-86-5	Pentachlorophenol
1918-02-1	Picloram
100-42-5	Styrene
118-96-7	TNT (2,4,6-trinitrotoluene)
93-72-1	2,4,5-TP (silvex)
75-01-4	Vinyl Chloride

Lungs

90-12-0	1-Methylnaphthalene
91-57-6	2-Methylnaphthalene

Mortality

84-74-2	Di-*n*-butyl phthalate

1330-20-7	Xylenes

Nervous System

67-64-1	Acetone
121-14-2	2,4-Dinitrotoluene
72-20-8	Endrin
7439-93-2	Lithium
7439-96-5	Manganese
95-48-7	2-Methylphenol (*o*-cresol)
121-82-4	RDX (hexahydro-1,3,5-trinitro- l,3,5-triazine)
127-18-4	Tetrachloroethylene

Reproductive System

1912-24-9	Atrazine
96-12-8	1,2-Dibromo-3-chloropropane
1563-66-2	Carbofuran
75-15-0	Carbon disulfide
143-33-9	Cyanide
1918-00-9	Dicamba
106-93-4	Ethylene dibromide (1,2-dibromoethane)
7439-93-2	Lithium
72-43-5	Methoxychlor

Skin

7440-38-2	Arsenic
7440-22-4	Silver
7440-28-0	Thallium

Spleen

99-65-0	1,3-Dinitrobenzene
606-20-2	2,6-Dinitrotoluene
99-35-4	1,3,5-Trinitrobenzene

Thyroid

7440-48-4	Cobalt
14797-73-0	Perchlorate
355-46-4	PFHxS (perfluorohexanesulfonic acid)
375-73-5	PFBS (perfluorobutanesulfonic acid)
8001-35-2	Toxaphene

Whole Body

120-12-7	Anthracene
7440-36-0	Antimony
65-85-0	Benzoic Acid

95-50-1	*o*-Dichlorobenzene (1,2-dichlorobenzene)
206-44-0	Fluoranthene
7782-49-2	Selenium
79-00-5	1,1,2-Trichloroethane
75-69-4	Trichlorofluoromethane

(Source: Added at 49 Ill. Reg. 4488, effective March 28, 2025)

Section 620.APPENDIX E Similar-Acting Substances

620.TABLE B Similar-Acting Carcinogenic Constituents

Circulatory System

71-43-2	Benzene
107-06-2	1,2-Dichloroethane
106-93-4	Ethylene dibromide (1,2-dibromoethane)

Gastrointestinal System

56-55-3	Benzo(a)anthracene
205-99-2	Benzo(b)fluoranthene
207-08-9	Benzo(k)fluoranthene
50-32-8	Benzo(a)pyrene
218-01-9	Chrysene
53-70-3	Dibenzo(a,h)anthracene
106-93-4	Ethylene dibromide (1,2-dibromoethane)
193-39-5	Indeno(1,2,3-c,d)pyrene

Kidney

67-66-3	Chloroform
96-12-8	1,2-Dibromo-3-chloropropane (dibromochloropropane)
121-14-2	2,4-Dinitrotoluene
606-20-0	2,6-Dinitrotoluene
100-41-4	Ethylbenzene
79-01-6	Trichloroethylene

Liver

319-84-6	*alpha*-BHC (*alpha*-benzene hexachloride)
56-23-5	Carbon tetrachloride
12789-03-6	Chlordane
106-46-7	*p*-Dichlorobenzene (1,4-dichlorobenzene)
75-09-2	Dichloromethane (methylene chloride)
78-87-5	1,2-Dichloropropane
117-81-7	Di(2-ethylhexyl)phthalate
121-14-2	2,4-Dinitrotoluene

606-20-0	2,6-Dinitrotoluene
123-91-1	1,4-Dioxane (*p*-dioxane)
58-89-9	*gamma-HCH* (*gamma* -hexachlorocyclohexane, lindane)
76-44-8	Heptachlor
1024-57-3	Heptachlor epoxide
1336-36-3	PCBs (polychlorinated biphenyls as decachloro-biphenyl)
335-67-1	PFOA (perfluorooctanoic acid)
87-86-5	Pentachlorophenol
127-18-4	Tetrachloroethylene
8001-35-2	Toxaphene
79-01-6	Trichloroethylene
75-01-4	Vinyl Chloride

Mammary Gland

121-14-2	2,4-Dinitrotoluene
606-20-0	2,6-Dinitrotoluene

(Source: Added at 49 Ill. Reg. 4488, effective March 28, 2025)