

4727.0100 DEFINITIONS.

Subpart 1. **Scope.** The terms used in parts 4727.0050 to 4727.1250 have the meanings given them in this part and in Minnesota Statutes, section 103I.005.

Subp. 2. [Repealed, 28 SR 147]

Subp. 3. **Annular space.** "Annular space" means the space between two cylindrical objects one of which surrounds the other, such as the space between a drillhole and a casing pipe, or between a casing pipe and liner pipe.

Subp. 4. [Repealed, 28 SR 147]

Subp. 5. **Aquifer.** "Aquifer" means a stratum of saturated, permeable bedrock or unconsolidated material having a recognizable water table or potentiometric surface that is capable of producing water to supply a well.

Subp. 5a. **Bedrock.** "Bedrock" means a consolidated or coherent, hard, naturally formed aggregation of rock in the earth. Bedrock does not include alluvium, glacial drift, glacial outwash, glacial till, loess, saprolite, or soil.

Subp. 5b. **Bentonite.** "Bentonite" means an aluminum silicate clay that contains at least 85 percent of the mineral montmorillonite and meets API Specification 13A.

Subp. 6. **Casing.** "Casing" means an impervious durable pipe placed in an exploratory boring to prevent the walls from caving and to seal off surface drainage or undesirable water, gas, or other fluids to prevent their entering the boring and the groundwater.

Subp. 7. **Commissioner.** "Commissioner" means the commissioner of health or an authorized representative.

Subp. 8. **Concrete grout.** "Concrete grout" means a mixture of Portland cement, sand as described in part 4727.0920, subpart 4, item A, subitems (3) to (6), and water in the proportion of 94 pounds of Portland cement and an equal volume of dry sand and not more than six gallons of clean water. Admixtures to reduce permeability or control setting time must meet ASTM Standard C494-86.

Subp. 8a. **Confining layer.** "Confining layer" means a geological material that restricts water movement relative to an aquifer. A confining layer includes:

A. a stratum of unconsolidated materials or bedrock ten feet or more in vertical thickness that has a vertical hydraulic conductivity of 10^{-6} centimeters per second or less;

B. a stratum of clay, sandy clay, or silty clay ten feet or more in vertical thickness, as defined in the Soil Survey Manual, incorporated by reference under part 4727.0150, item I; or

C. any portion of the Decorah, Glenwood, St. Lawrence, or Eau Claire sedimentary bedrock formations as described in Paleozoic Lithostratigraphy of Southeastern Minnesota, incorporated by reference under part 4727.0150, item H.

Subp. 9. [Repealed, 28 SR 147]

Subp. 9a. **Drilling machine.** "Drilling machine" means a machine or mechanical device that is used to excavate, drill, or bore an exploratory boring and is mounted on a truck, trailer, crawler, or skid. A drilling machine includes, but is not limited to, a core drill, cable tool, hollow rod, auger, sonic, or rotary tool.

Subp. 10. **Established ground surface.** "Established ground surface" means the intended or actual finished grade (elevation) of the surface of the ground at the site of the exploratory boring.

Subp. 11. **Exploratory boring.** "Exploratory boring" has the meaning given in Minnesota Statutes, section 103I.005, subdivision 9.

Subp. 12. **Explorer.** "Explorer" has the meaning given in Minnesota Statutes, section 103I.005, subdivision 10. For the purposes of this chapter, explorer includes a person licensed to construct or seal an exploratory boring.

Subp. 13. [Repealed, 28 SR 147]

Subp. 14. **Groundwater.** "Groundwater" has the meaning given in Minnesota Statutes, section 115.01, subdivision 6.

Subp. 15. **Grout.** "Grout" means a material used to fill the annular space around a casing or between casings or to seal an exploratory boring. Grout is either neat cement grout, concrete grout, kaolin clay in the kaolin clay portion of a boring, or high solids bentonite grout.

Subp. 16. [Repealed, 28 SR 147]

Subp. 16a. **High solids bentonite grout.** "High solids bentonite grout" means a fluid mixture of water and a minimum of 15 percent by weight of bentonite, with no additives to promote temporary viscosity. The bentonite must be marketed as a grout or well sealant and must be mixed according to the manufacturer's specifications.

Subp. 16b. **Hoist.** "Hoist" means a machine or mechanical device that is mounted on a truck, trailer, crawler, or skid and used to:

- A. remove or install a pump, pumping equipment, or casing;
- B. remove an obstruction from an exploratory boring;
- C. install a tremie pipe when sealing an exploratory boring; or
- D. conduct any other activity that requires an explorer's license.

A hoist does not include a drilling machine.

Subp. 16c. **Igneous or metamorphic bedrock.** "Igneous or metamorphic bedrock" means a mass of rock in the earth solidified from a molten state or formed as a result of pronounced changes in pressure and temperature, including granite and slate.

Subp. 16d. **Kaolin clay.** "Kaolin clay" means a hydrous aluminum silicate chiefly comprised of the mineral kaolinite.

Subp. 16e. **Licensee.** "Licensee" means a person who is licensed as an explorer under this chapter and Minnesota Statutes, chapter 103I.

Subp. 17. [Repealed, 28 SR 147]

Subp. 18. **Neat cement grout.** "Neat cement grout" means a mixture in the proportion of 94 pounds of Portland cement and not more than six gallons of clean water. Bentonite up to five percent by weight of cement (4.7 pounds of bentonite per 94 pounds of Portland cement) may be used to reduce shrinkage. Admixtures meeting the standard specifications of ASTM Standard C494-86 may be used to reduce permeability and/or control time of set.

Subp. 18a. **Permanent sealing.** "Permanent sealing" means the process of preparing an exploratory boring to be filled with grout and filling the exploratory boring with grout.

Subp. 19. **Person.** "Person" means an individual, firm, partnership, association, or corporation or any other entity including the United States government, any interstate body, the state, and any agency, department, or political subdivision of the state.

Subp. 20. **Pollution or contamination.** "Pollution" or "contamination" means the presence or addition of any substance to water which is or may become injurious to the health, safety, or welfare of the general public or private individuals and which is or may become injurious to domestic, commercial, industrial, agricultural, or other uses which are being made of such water.

Subp. 20a. **Portland cement.** "Portland cement" means:

- A. construction material that conforms to ASTM Standard C150-85a; or
- B. Type IL blended Portland-limestone cement that conforms to ASTM Standard C595, "Standard Specification for Blended Hydraulic Cements."

Subp. 20b. **Potable water.** "Potable water" means water that is safe for human consumption in that it is free from impurities in amounts sufficient to cause disease or harmful physiological effects.

Subp. 20c. **Rapid setting cement.** "Rapid setting cement" means:

- A. Type III Portland cement as designated in ASTM Standard C150-85a;
- B. Type IL-HE Portland-limestone cement as designated in ASTM Standard C595, "Standard Specification for Blended Hydraulic Cements";
- C. a cement labeled as an API Class C cement; or
- D. any Portland cement containing calcium chloride, sodium chloride, or gypsum in an amount between two and four percent by weight of Portland cement.

Subp. 20d. **Regional flood.** "Regional flood" has the meaning given in Minnesota Statutes, section 103F.111, subdivision 10.

Subp. 21. **Responsible individual.** "Responsible individual" means a person who has met the qualifications prescribed in part 4727.0600 and has been approved for certification by the commissioner according to part 4727.0700.

Subp. 22. **Rock.** "Rock" means a naturally formed aggregation of mineral matter including rock described in part 4727.0920, subpart 4, item B.

Subp. 23. **Sealing.** "Sealing" means permanent sealing or temporary sealing.

Subp. 24. **Sedimentary bedrock.** "Sedimentary bedrock" means a consolidated or coherent naturally formed aggregation of mineral matter in the earth formed of clastic fragments of other rock or sediment or minerals formed by precipitation from solution in water and includes sandstone, shale, and limestone. Sedimentary bedrock does not include mineral matter deposited during, or more recently than, the Cretaceous geologic period.

Subp. 25. **Temporary sealing.** "Temporary sealing" means protecting an exploratory boring by following the construction and operation practices under parts 4727.0950 to 4727.0985 until the boring is permanently sealed.

Subp. 26. **Tremie pipe.** "Tremie pipe" means a pipe or hose used to insert grout into an annular space or to seal an exploratory boring.

Subp. 27. **Unconsolidated materials.** "Unconsolidated materials" means geologic materials that are not bedrock, including alluvium, glacial drift, glacial outwash, glacial till, loess, saprolite, soil, and those materials specified in part 4727.0920, subpart 4, item A.

Statutory Authority: *MS s 103I.101; 156A.01 to 156A.08*

History: *28 SR 147; 48 SR 447*

Published Electronically: *November 22, 2023*