

567—39.3(455B) Definitions.

“Abandoned well” means a water well which is no longer in use or which is in such a state of disrepair that continued use for the purpose of accessing water is unsafe or impractical.

“Agricultural lime” means all calcium and magnesium products sold for agricultural purposes in the carbonate form, not including quicklime or hydrated lime, of a size comparable with that of crushed stone, gravel or pea gravel.

“Approved” means accepted or acceptable under an applicable specification stated or cited in these rules.

“Aquifer” means a water-bearing geologic formation capable of yielding a usable quantity of water to a well or spring.

“Bentonite” means a naturally occurring highly plastic, colloidal clay composed largely of the mineral montmorillonite which expands upon wetting.

“Bentonite grout (or slurry)” means a mixture of 10 percent processed bentonite (by weight) and water which is free of contaminants, turbidity and settleable solids.

“Bentonite pellets” means a form of processed bentonite which can be used directly for sealing applications in well plugging operations.

“Bentonite products” means the forms of bentonite which can be used for sealing material in wells, including graded bentonite, bentonite pellets and bentonite grout.

“Capped” means the application of a layer of sealing material at the top of the well casing.

“Casing” means a tubular retaining structure installed in an excavated hole to maintain the well opening.

“Certified well contractor” means a well contractor certified by the department in accordance with 567—Chapter 82.

“Class 1 well” means a well 100 feet or less in depth and 18 inches or more in diameter.

“Class 2 well” means a well more than 100 feet in depth or less than 18 inches in diameter or a bedrock well. Bedrock wells include:

1. Wells completed in a single confined aquifer;
2. Wells completed in a single unconfined aquifer; and
3. Wells completed in multiple aquifers.

“Class 3 well” means a sandpoint well or a well 50 feet or less in depth constructed by joining a screened drive point with lengths of pipe and driving the assembly into a shallow sand and gravel aquifer.

“Concrete” means a mixture of one sack (94 pounds) of Portland cement, up to but not exceeding an equal amount by volume of sand and up to but not exceeding an equal amount by volume of gravel or crushed stone and not more than six gallons of water which is free of contaminants, turbidity and settleable solids.

“Confined aquifer” means an aquifer in which the groundwater is under pressure greater than atmospheric pressure. The static water level in a well tapping a confined aquifer rises to a level above the top of the aquifer.

“Crushed stone” means stone (predominantly limestone), crushed and well graded, with 100 percent passing a 1-inch sieve, in accordance with the 1984 edition of Iowa department of transportation specification No. 4120.04 for Class A crushed stone.

“Department” means the department of natural resources created under Iowa Code section 455A.2.

“Designated agent” means a person other than the state, designated by a county board of supervisors to review and confirm that a well has been properly plugged.

“Director” means the director of the department.

“Filling materials” means agricultural lime, soil, sand, gravel, crushed stone, rock and pea gravel used to occupy space between and below sealing materials in abandoned wells being plugged.

“Frost pit” means a sunken area located directly over or within 4 feet of a well and used to house the equipment for discharging water from a well into the water system.

“Graded bentonite” means bentonite which is crushed and sized for pouring and easy handling. Like processed bentonite, it swells when hydrated with water and will form a plastic, essentially impermeable mass.

“*Gravel*” means stone screened from river sand or quarried, with 100 percent passing a ¾-inch sieve, in accordance with the 1984 edition of the Iowa department of transportation specification No. 4120.02 for Class B gravel.

“*Groundwater*” means any water beneath the surface of the earth.

“*Grout*” means, for the purposes of this chapter, a fluid mixture of cement and water (neat cement); sand, cement and water (sand cement grout); or bentonite and water (bentonite grout or slurry) of a consistency that can be forced through a pipe and placed as required.

“*Limestone*” means sedimentary rock which contains greater than 50 percent calcium carbonate and has a strong reaction with hydrochloric acid (HCL).

“*Neat cement*” means a mixture of one sack (94 pounds) of Portland cement to not more than six gallons of water which is free from contaminants, turbidity or settleable solids. Bentonite up to 2 percent by weight of cement may be added to reduce shrinkage.

“*Owner*” means the titleholder of the land where an abandoned well is located.

“*Pea gravel*” means gravel sized from 1/8 inch to 3/8 inch in diameter.

“*Plug*” means the closure of an abandoned well with plugging materials by procedures which will permanently seal the well from contamination by surface drainage and permanently seal off the well from contamination into an aquifer. This involves the proper application of filling and sealing materials.

“*Processed bentonite*” means bentonite which has been kiln dried and processed into pellets for direct use in well sealing applications or into powder or coarse granules for use in bentonite grout for sealing.

“*Rock*” means stone screened from river sand or quarried, free of debris, foreign matter and any toxic or agricultural chemical residue, up to 2½ inches in diameter.

“*Sand*” means clean, medium-textured quartz (concrete sand) and shall be at least 25 percent with diameters between 2.0 and 0.25 mm, less than 35 percent with diameters between 0.25 and 0.05 mm and less than 5 percent with diameters between 0.002 and 0.05 mm.

“*Sand cement grout*” means a mixture of one sack (94 pounds) of Portland cement, an equal amount by volume of sand and not more than six gallons of water which is free from contaminants, turbidity and settleable solids.

“*Sandpoint well*” means a small diameter water well constructed by joining a screened drive point with lengths of pipe and driving the assembly into a shallow sand and gravel aquifer.

“*Sealing*” means the proper placement of sealing materials into an abandoned well to seal off flow into, out of or between aquifers.

“*Sealing materials*” means bentonite products. Sealing materials may also include neat cement, sand cement grout and concrete.

“*Standby well*” means a water well which is temporarily taken out of service with the expectation of being returned to service at a future date.

“*Static water level*” means the water level in a water well or aquifer when the well is not flowing or being pumped; sometimes referred to as the water line. The static water level for an abandoned well is determined just prior to commencing plugging operations.

“*Tremie pipe*” means a device, usually a small diameter pipe, that carries grouting materials to the bottom of the hole and which allows pressure grouting from the bottom up without introduction of air pockets.

“*Unconfined aquifer*” means an aquifer in which the static water level does not rise above the top of the aquifer, i.e., the pressure of the water in the aquifer is approximately equal to that of the atmosphere.

“*Water well*” means an excavation that is drilled, cored, bored, augered, washed, driven, dug, jetted or otherwise constructed for accessing groundwater.