

tween the phenocrysts in a porphyritic igneous rock. It includes the basis or base as well as the smaller crystals of the rock. **Syn:** MATRIX

ground moraine The material deposited from a glacier on the ground surface over which the glacier has moved. It is bordered by lateral and/or end moraines by lateral and/or end moraines.

ground motion The displacement of the ground due to the passage of elastic waves arising from earthquakes, explosions, seismic shots, machinery, wind, traffic, and other causes.

ground resistivity The resistivity of soil and rock materials. See RESISTIVITY

ground roll Seismic surface waves generated during reflection shooting; predominantly Rayleigh waves.

ground swell A long high ocean swell. Also, this swell as it rises to prominent height in shallow water.

ground water Phreatic water, *e.v.* That part of the subsurface water which is in the zone of saturation.

ground-water barrier A body of material which is impermeable and has only low permeability and which occurs below the surface in such a position that it impedes the horizontal movement of ground water and consequently causes a pronounced difference in the level of the water table on opposite sides of it. **Syn:** GROUND-WATER DAM

ground-water divide A line on a water table on each side of which the water table slopes downward in a direction away from the line.

ground-water flow That portion of the precipitation which has been absorbed by the ground and has become part of the ground water, alternately being discharged as spring and seepage

water into the stream channels and leaving no drainage as runoff.

ground-water level Ground-water surface.

ground-water reservoir Aquifer, *q.v.*

ground-water runoff That part of the runoff which consists of water that since its last precipitation has existed as ground water.

ground-water surface This level, below which the rock and soil (down to unknown depths) are full of water, is known as the ground-water level, ground-water surface, or water table.

group 1. *General:* An association of any kind based upon some feature of similarity or relationship. *Stratig:* 2. Lithostratigraphic unit consisting of two or more formations; 3. More or less informally recognized succession of strata too thick or inclusive to be considered a formation; 4. Subdivision of a series. **Obs. Cf.**

group velocity 1. *Oceanog:* The velocity at which a wave group travels. In deep water, it is equal to half the velocity of the individual waves within the group.

2. *Geophys:* The velocity of dispersive wave crests in a dispersive, continuous medium in which several frequencies are apparent. In a medium in which the velocity varies with frequency the wave train changes its shape as it progresses, in which case the group velocity may differ materially from the phase velocity.

growth fabric Crystal arrangement determined by growth from a plane surface such as the wall of a vein.

growth twinning Twinning resulting from change in lattice orientation during the growth of a crystal. **Cf.** DEFORMATION TWINNING

groynes See GROIN

grunerite A mineral of the amphibole group, (Fe,Mg)₃Si₃O₁₀(OH)₂. An accumulation of angular, coarse-grained fragments resulting from the granular disintegration of crystalline rocks (esp. granite) generally in an arid or semiarid region.

Gundalaptian The third of four provincial series of the Permian in the United States.

gusano 1. Applied to deposits of the excrement of bats, birds, or other animals. 2. A substance found in great amounts on some coasts or islands frequented by marine birds; it is composed chiefly of their excrement, and is rich in phosphates and nitrogenous matter. It is extensively used for soil fertilizer.

guide fossil Any kind of category (species, genus, etc.) of fossil useful in the identification of a stratigraphic unit. The best guide fossil of a time-stratigraphic unit should have short stratigraphic range, wide geographic distribution, broad ecologic tolerance, and occur abundantly.

Syn: INDEX FOSSIL

gulch A small ravine; a shallow canyon with smooth inclined slopes and steep sides. Local in Far West.

gulf 1. (1) A portion of the sea partially enclosed by a more or less extensive sweep of the land. The distinction between gulf and bay is not always clearly defined but in general a bay is a proportion to its area less than a gulf; the term is applied to locked portions of sea through a strait, which are called bays. (2) A deep chasm, abyss. (3) A deep (in river or ocean). 2. A large deposit in a lode. 3. Elongated, level, steep-sided, low alluvium; a "wind-drain" underground drainage

generating
Syn: Gulf
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e

GROUND WATER ... DEFINED

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GROUND WATER...DEFINED

**A Compilation of Terms as Defined by
the Ground Water Industry**

**The National Water Well Association
500 West Wilson Bridge Road
Worthington, OH 43085
614/846-9355**

November 1985

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PREFACE

Ground Water...Defined is a compilation of definitions for terms commonly used in the ground water industry.

Terms and definitions were selected from federal statutes and regulations that impact ground water. Some of the environmental laws reviewed include the Safe Drinking Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Emergency Response, Compensation and Liability Act. Terms and definitions from state water well and pump contractor licensing and private well construction codes were also used in the compilation. Two criteria were used in determining which states to review: (1) the state had an established program and (2) overall the states reviewed represented the various geographical areas of the country. The **Manual of Water Well Construction Practices** was also consulted as a source for definitions.

There are 111 terms on the list and 204 definitions for those terms. Some terms have one definition while others such as "well" have several definitions. For additional definitions, consult federal and state laws impacting ground water and the sources listed in the Bibliography of this publication.

Comments and suggestions for improving this booklet are welcome.

DISCLAIMER

This glossary should be used as a guide in determining generally accepted terminology and definitions in the industry. Applicable federal and state statutes and regulations should be consulted for the legal definition in your state.

GROUND WATER...DEFINED

A

Abandonment

"Abandonment" means the complete filling with grout of a well in order to seal the aquifer to prevent the contamination of ground water. In the case of a cistern, abandonment includes emptying the cistern and filling it with an inert solid material. In the case of a spring or pond, abandonment means the disconnection of all piping from the source to the point of discharge. -- Ohio Admin. Code Sections 3701-28 (1983)

Cross reference: Abandoned well

Adequate Water Supply

"Adequate water supply" means a water supply which has a yield, where obtainable, and the pump capacity to provide the quantity of water which the user has stated is necessary for drinking, culinary, food processing and other purposes for which the water is intended to be used. -- Wis. Admin. Code Sections NR 112.01 et. seq.

Alteration

"Alteration" means a major change in the type of construction or configuration of a private water system, including but not limited to, adding a disinfection or treatment device, converting a water well with a buried seal to a well with a pitless adapter or well house installation; extending a distribution system; converting a well using a well pit to a well with a pitless adapter or well house type of construction; extending the casing above ground; deepening a well; changing the type of pumping equipment when that requires making new holes or sealing or plugging existing holes in the casing or wall of a well; repairing, extending, or replacing any portion of the inside or outside casing or wall, or of the walls of a spring or cistern, that extend below ground level. -- Ohio Admin. Code Sections 3701-28 (1983)

Cross reference: Repair

Annular Space

"Annular space" means the space between the side of an excavation and the casing or wall of a well. Ohio Admin. Code Section 3701-28 (1983)

"Annular space" means the space between 2 concentric cylinders or circular objects, such as the space between an upper enlarged drillhole and initial protective casing pipe or between the initial protective casing pipe and an outer construction pipe or inner liner pipe or between an inner liner pipe and lower drillhole. -- Wis. Admin. Code Sections NR 112.01 et. seq.

"Annular space" means the opening between a wellhole excavation and the well casing or curb, or between a casing pipe and a liner pipe. -- Arkansas Water Well Construction Code Rule and Regulations (1982)

Aquifer

Aquifer means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Aquifer means a water bearing formation that transmits water in sufficient quantity to supply a well. Arkansas Water Well Construction Code Rules and Regulations (1982)

Aquifer. A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs. Manual of Water Well Construction Practices

Cross reference: Confined aquifer, Unconfined aquifer

B

Backflow Prevention Device

"Backflow prevention device" means any device, method or type of construction to prevent backflow of water, liquids, mixtures, or substances into the distributing pipes of a potable supply of water from any source other than its intended source. -- Ohio Admin. Code Sections 3701-28 (1983)

Bailer

Bailer. A long narrow bucket made of pipe with [or without editor's note] a valve in the bottom used to remove cuttings from the hole. -- Manual of Water Well Construction Practices

Bentonite

Bentonite. A highly plastic, colloidal clay composed largely of mineral montmorillonite. -- Manual of Water Well Construction Practices

Cross reference: Seal, Drilling Mud

Bradenhead

Bradenhead. A pack-off or seal between two casings. -- Manual of Water Well Construction Practices

C

Capillarity

Capillarity. The property of tubes with minute openings which, when immersed in a fluid, raises or depresses the fluid in the tubes above or below the surface of the fluid in which they are immersed. -- Manual of Water Well Construction Practices

Capillary Fringe

Capillary Fringe. The zone immediately above the water table in which water is held by capillarity. -- Manual of Water Well Construction Practices

Casing

Casing

(1) "Casing" means an impervious durable pipe placed in a well to prevent the walls from caving and to seal off surface drainage or undesirable water, gas, or other fluids, and prevent their entering the well and specifically:

- (a) "Surface or temporary casing" means a temporary casing placed in soft, sandy, or caving surface formation to prevent the hole from caving during drilling.
- (b) "Protective casing" means the permanent casing of the well.
- (c) "Liner pipe" means a well casing installed without driving within a protective casing or open drillhole.

-- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Casing" means a pipe used to exclude unwanted or harmful materials from a well. -- Ohio Admin. Code Section 3701-28 (1983)

Casing. A tubular retaining structure, generally metal, which is installed in the excavated hole to maintain the well opening. -- Manual of Water Well Construction Practices

Conductor Pipe or Casing

Conductor Pipe or Casing. A tubular retaining structure installed between the drilled hole and the inner casing, in the upper portion of a well. -- Manual of Water Well Construction Practices

Liner Pipe

"Liner pipe" means either protective well casing pipe installed subsequent to initial construction to seal off a zone of bacterial or chemical contamination or casing pipe installed during or subsequent to the initial well construction to seal off a caving formation -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cement Grout

Cement grout is a mixture of water and cement in the ratio of not more than 5-6 gallons of water to a 94 pound sack of portland cement which is fluid enough to be pumped through a small-diameter pipe. To obtain a better flowing mixture, 3-5 pounds of bentonite clay may be added per sack of cement and the water increased to not more than 6.5 gallons per sack of cement. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Seal

Centralizer

Centralizer. Used to center casing in the hole, insuring uniform annular space for effective grouting. -- Manual of Water Well Construction Practices

Cistern

"Cistern" means a covered tank in which rainwater from roof drains is stored. -- Wis. Admin. Code Section NR 112.01 et. seq.

Clay

Clay. A fine-grained inorganic material (grains less than 0.0005 mm in diameter) which has very low permeability and is plastic.
-- Manual of Water Well Construction Practices

Clay Slurry

"Clay slurry" means a fluid mixture of native clay formation or commercial clay or clay mineral products and water prepared with only the amount of water necessary to produce fluidity -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cross reference: Seal

Clear Water Waste

"Clear water waste" means cooling water and condensate drainage from refrigeration compressors and air-conditioning equipment, waste water drainage from equipment chilling processes, foundation drainage water and other water having no impurities or where impurities are of such minimum concentration as not to be considered harmful and cooled condensate from steam heating systems or other equipment -- Wis. Admin. Code Sections NR 112.01 et seq.

Coefficient of Transmissibility

Coefficient of Transmissibility. The field coefficient of permeability multiplied by the aquifer thickness in feet. The terms have been replaced by "transmissivity". -- Manual of Water Well Construction Practices

Coefficient of Viscosity

Coefficient of Viscosity. The force required to maintain a unit difference in velocity between two layers of water a unit distance apart. -- Manual of Water Well Construction Practices

Cone of Depression

Cone of Depression. The conical surface of the water level created in an unconfined aquifer due to pumping. -- Manual of Water Well Construction Practices

Cross reference: Cone of pressure relief

Cone of Pressure Relief

Cone of Pressure Relief. An imaginary conical surface of the water level indicating pressure relief in a confined aquifer due to pumping -- Manual of Water Well Construction Practices

Cross reference: Cone of depression

Confined Aquifer

"Confined aquifer" means an aquifer bounded above and below by beds of distinctly lower permeability than that of the aquifer itself and which contains groundwater under pressure greater than that of the atmosphere. This term is synonymous with the term "artesian aquifer" -- Md. Admin. Code Title 10, Sections 17.13.01-.12 (1984)

"Artesian aquifer" means an aquifer which is overlain by a confining formation and which contains groundwater under sufficient pressure for the water to rise above the top of the aquifer. -- Ariz. Admin. Comp. R 12-15-801 to -821 (1983)

Confined Ground Water. Ground water under pressure significantly greater than atmospheric pressure; and its upper limit is the bottom of a bed of distinctly lower hydraulic conductivity than that of the material in which the confined water occurs. -- Manual of Water Well Construction Practices

Cross reference: Aquifer, Unconfined aquifer

Confining Formation

"Confining formation" means the relatively impermeable formation immediately overlying an artesian aquifer. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

Cross reference: Consolidated formation, Formation, Unconsolidated formation

Consolidated Formation

"Consolidated formation" means a naturally occurring geologic formation through or into which a well is drilled, having a composition, density, and thickness which will provide a natural hydrologic barrier. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

The term consolidated formations is used for naturally-occurring geologic formations that have been lithified (turned to stone). The term is sometimes used interchangeably with the word "bedrock." It includes rock such as basalt, rhyolite, sandstone, limestone, and shale. Commonly, these formations will stand at the edges of a bore hole without caving. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Confining formation, Formation, Unconsolidated formation

Contaminant

The term "contaminant" means any physical, chemical, biological, or radiological substance or matter in water. -- Safe Drinking Water Act, 42 USC 300f et. seq.

"Contaminant" means any matter which may render water bacteriologically or chemically impure or turbid so as to make it unfit for human consumption -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cross reference: Contamination, Maximum contaminant level, Pollution

Contamination

"Contamination" means the introduction of any contaminant into the private water system or ground water which renders the water unfit for human consumption. Contamination levels shall be prescribed by the director. -- Ohio Admin. Code Section 3701-28 (1983)

Contamination is the introduction into the natural groundwaters of any chemical material, organic material, live organism, or radioactive material that will lower the quality of the groundwater. It also is extended to include the introduction of heating water or cooled water into the groundwaters if the changing of the water temperatures renders the water less usable. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Contaminant, Pollution

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Cross Connection

"Cross connection" means any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other water of unknown or questionable safety, whereby water may flow from one system to the other, the direction of flow depending on the pressure differential between the two systems. -- Ohio Admin. Code Section 3701-28 (1983)

D

Disinfectant

"Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Drainage System

"Drainage system" means the piping within public or private premises, which conveys sewage, rainwater or other liquid wastes to the point of disposal, but does not include the mains of a public sewerage system or private or public sewage treatment plant -- Wis. Admin. Code Sections NR 112.01 et. seq.

Drawdown

"Drawdown" means the extent of lowering the water surface in a well and aquifer resulting from the discharge of water from the well. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Drawdown" means the extent of lowering of the water level or water pressure in a well when water is pumped or flows from it -- Wis. Admin. Code Sections NR 112.01 et. seq.

Drawdown. The difference in levels between the static water level and the surface of the cone of depression. -- Manual of Water Well Construction Practices

Drilling Mud

Drilling Mud. A fluid composed of water and bentonite used in the drilling (primarily rotary) operation to remove cuttings from the hole, to clean and cool the bit, to reduce friction between the drill stem and the sides of the hole, and to plaster the sides of the hole. Such fluids range from relatively clear water to carefully prepared mixtures of special purpose compounds. -- Manual of Water Well Construction Practices

Drilling mud means a heavy suspension used in drilling an "injection well," introduced down the drill pipe and through the drill bit -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Cross reference: Bentonite

Drive Shoe

Drive Shoe. A forged steel collar with a cutting edge fastened onto the bottom of casing to shear off irregularities in the hole as the casing advances, and to protect the lower edge of the casing as it is driven. -- Manual of Water Well Construction Practices

"Drive shoe" means a forged or tempered steel collar with a cutting edge, attached to the lower end of a casing by threading or welding, to protect the lower end of the casing as it is driven. -- Ohio Admin. Code Section 3701-28 (1983)

E

Eductor Pipe

Eductor. The vertical discharge pipe, usually submerged about two-thirds of its length below the pumping water level in the well. -- Manual of Water Well Construction Practices

Electrolyte

Electrolyte. A chemical which dissociates into positive and negative ions when dissolved in water, increasing the electrical conductivity. -- Manual of Water Well Construction Practices

Employed

"Directly employed" means under full-time employment and, where applicable, covered by workmen's compensation and unemployment compensation. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Environment

The term "environment" includes water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among these -- Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC 136 et. seq.

Cross reference: Protect health and environment, Unreasonable adverse effects on the environment

Established Grade

"Established grade" means the permanent point of contact of the ground or artificial surface with the casing pipe or curbing of the well - Wis. Admin. Code Section NR 112.01 et. seq.

Cross reference: Established ground surface

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 well. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Established ground surface" means the permanent elevation of the surface of the site of the well -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cross reference: Established grade

F

Fluid

Fluid means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Flushing

"Flushing" means the act of causing a rapid flow of water from a well by pumping, bailing or similar operation -- Wis. Admin. Code Sections NR 112.01 et. seq.

Formation

Formation means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface. -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Cross reference: Confining formation, Consolidated formation, Unconsolidated formation

Formation Fluid

Formation fluid means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as "drilling mud." -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

G

Gravel Pack

Artificial gravel pack is a term used to describe gravel or other permeable filter material placed in the annular space around a perforated well casing or well screen. A gravel pack is frequently used to prevent the movement of finer material into the well casing and to increase the ability of the well to yield water. -- Idaho Well Construction Standards (Rev. 1982)

Ground Water

"ground water" means water in a saturated zone or stratum beneath the surface of land or water -- Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601 et. seq.

"Ground water" means that part of subsurface water which is in the zone of saturation -- Wis. Admin. Code Sections NR 112.01 et. seq.

"Ground water" means any water below the surface of the earth in a zone of saturation. -- Ohio Admin. Code Section 3701-28 (1983)

Ground Water. Water in the zone of saturation. -- Manual of Water Well Construction Practices

Cross reference: Near-surface water, Perched ground water, Surface water

H

Hydraulic Gradient

Hydraulic Gradient. The change in static head per unit of distance in a given direction. If not specified the direction generally is understood to be that of the maximum rate of decrease in head. -- Manual of Water Well Construction Practices

I

Injection Zone

Injection zone means a geological "formation," group of formations, or part of a formation receiving fluids through a "well". -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

J-K

L

Lift

Lift. The vertical distance from the pumping level to the point of discharge of the water plus the friction loss in the eductor pipe. -- Manual of Water Well Construction Practices

M

Maximum Contaminant Level

"Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition. -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Cross reference: Contaminant

N

Near-surface Water

"Near-surface water" means water in the zone immediately below the ground surface. It may include seepage from barnyards, leaching pools and disposal beds or leakage from sewers, drains and similar sources of contaminated water -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cross reference: Ground water, Perched ground water, Surface water

Q

Owner

Owner: Any person or his agent who holds the title or other rights of property in a well that is constructed, repaired, or abandoned. -- Conn. Agencies Regs. 25-128-1 et seq. (1984)

Owner means the person or persons who own the property on which the well is being constructed. Arkansas Water Well construction Code Rules and Regulations (1982)

P

Packer

Packer. A device placed in a well which plugs or seals the well at a specific point. -- Manual of Water Well Construction Practices

Perched Ground Water

Perched Ground Water. Ground water in a saturated zone which is separated from the main body of ground water by unsaturated rock. -- Manual of Water Well Construction Practices

Cross reference: Ground water, Near-surface water, Surface water

Permeability

"Permeability" means the capability of a rock, aquifer, or confining bed to transmit water. -- Md. Admin. Code Title 10, Sections 17.13.01-.12 (1984)

Permeability. A measure of the relative ease with which a porous medium can transmit a liquid under a potential gradient. It is a property of the medium alone and is independent of the nature of the liquid and of the force field causing movement. It is a property of the medium that is dependent upon the shape and size of the pores. -- Manual of Water Well Construction Practices

Permit

"Permit" means a written approval issued by the department -- Wis. Admin. Code Sections NR 112.01 et. seq.

"Permit" is the registration certificate issued by the department of natural resources to each person, firm or corporation duly registering and paying the annual permit fee to do well drilling or pump installing, or both, as herein provided for.-- Wis. Stat. Ann. Sections 162.01 et seq.

Person

"person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body -- Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC 9601 et. seq.

"Person" includes the state, political subdivision, individual, corporation, business trust, estate, trust, partnership, or association. -- Ohio Admin. Code Sections 3701-28 (1983)

Pitless Installations

"Pitless adapter" means a device for above or below ground discharge designed for attachment to one or more openings through a well casing, and constructed so as to prevent the entrance of contaminants into the well. -- Minnesota Rules, Chapter 4725.0100-4725.1860

"Pitless adaptor" means a device or assembly of parts which will permit water to pass through the wall of the well casing or extension thereof, and which provides access to the well and to the parts of the water system within the well in a manner to prevent entrance of pollution into the well and the water produced. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Pitless installation device" means an assembly of parts which permits water to pass through the casing or extension thereof; provides access to the well and to the parts of the water system within the well; and provides for the transportation of the water and the protection of the well and water therein from surface or near surface contaminants. -- Ohio Admin. Code Section 3701-28 (1983)

"Pitless unit" means an assembly with cap which extends the upper end of the well casing to above grade, and constructed so as to prevent the entrance of contaminants into the well. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Plugging

Plugging means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Cross reference: Sealing

Pollution

"Pollution" means the presence or addition of any substance to water which is or may become injurious to the public health, safety or welfare; or which is or may become injurious to domestic, commercial, industrial, agricultural, or other uses which are being made of such water. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Pollution" means every contamination or other alteration of the physical, chemical, or biological properties, of any waters of the State, including change in temperature, taste, color, turbidity, or odor of the waters, or the discharge of deposit of any organic matter, harmful organisms, liquid, gaseous, solid radioactive, or other substance into any waters of the State as will render the waters harmful, detrimental, or injurious to public health, safety, or welfare, domestic, commercial, industrial, agricultural, recreational, other legitimate beneficial uses, or livestock, wild animals, birds, fish, or other aquatic life. -- Md. Admin. Code Title 10, Sections 17.13.01-.12 (1984)

Cross reference: Contaminant, Contamination

Potable Water

"Potable water" means water which is satisfactory for drinking, culinary, and domestic purposes. -- Ohio Admin. Code Sections 3701-28 (1983)

"Potable water" means water which is pure, wholesome, and free from impurities that may cause disease or harmful physiological effects such that the water is safe for human consumption. -- Mich. Admin. Code R. 325.1601.-177 (1979)

Pressure Sealing

"Pressure grouting" means a process by which a grout is confined within the drill hole or casing by the use of retaining plugs or packers and by which sufficient pressure is applied to drive the grout slurry into and within the annular space or zone to be grouted. -- Ariz. Admin. Comp. R. 12-15-801 to-821 (1983)

Cross reference: Plugging, Tremie pipe

Pressure Tank

"Pressure tank" or "hydropneumatic tank" means a closed water storage container constructed to operate under a designed pressure rating to modulate the water system pressure within a selected pressure range. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Protect Health and Environment

The terms "protect health and the environment" and "protection of Health and the environment" mean protection against any unreasonable adverse effects on the environment -- Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC 136 et. seq.

Cross reference: Environment, Unreasonable adverse effects on the environment

Puddled Clay

Puddling clay is a mixture of bentonite, other expansive clays, fine-grained material and water, in a ratio of not less than 7 pounds of bentonite or expansive clay per gallon of water. It must be composed of not less than 50 percent expansive clay with the maximum size of the remaining portion not exceeding that of coarse sand. Bentonite, cement or other expansive clays may not be installed dry unless in a granulated form. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Seal

Pump House

"Pump house" means a building constructed over a well exclusively to protect the well, pump, and water treatment equipment. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Cross reference: Pump room

Pump Installer

Pump Installer

"Pump installer" means any person, firm or corporation who is duly registered as such with the department, has paid the annual registration fee and has obtained a permit to engage in pump installing -- Wis. Admin. Code Sections NR 112.01 et seq.

"Pump installer" means a person who is qualified to engage in the installation, removal, alteration, or repair of water well pumping equipment in connection with a water well. -- Mich. Comp. Laws Ann. Section 333.12701-.12715 (West 1980 & Supp. 1985)

"Pump installation contractor" means any person engaged in the business of installing pumping equipment for compensation and licensed pursuant to this article. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Private pump installer

Private Pump Installer

"Private pump installer" means any person who installs pumping equipment on a well entirely for his own use on property owned or controlled by him with equipment owned or operated by him. -- Colo. Rev. Stat. Section 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Pump installer

Pump Installing

"Pump installing" is the industry and procedure employed in the placement and preparation for operation of equipment and materials utilized in withdrawing or obtaining water from a well for consumption or use, including all construction involved in making entrance to the well and establishing such seals and safeguards as are necessary to protect such water from contamination -- Wis. Stat. Ann. Section 162.01 et seq.

"Installation of pumping equipment" means the selection of and procedure employed in the placement, preparation for operation, repair, or modification of pumping equipment, including all construction involved in making entrance to the well and establishing well seals and safeguards to protect ground water from contamination. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Pumps and pumping equipment

Pump Room

"Pump room" or "well room" means an enclosed structure, either above or below grade, housing the pump, top of the well, a suction line or any combination thereof. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Cross reference: Pump house

Pumping Water Level

"Pumping water level" means the elevation of the surface of the water in a well or water pressure at the top of a flowing artesian well after a period of pumping or flow at the customary rate -- Wis. Admin. Code Sections NR 112.01 et seq.

"Pumping water level" means the distance measured from the established ground surface to the water surface in a well being pumped at a specified rate for a specified period of time. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Cross reference: Static water level

Pumps and Pumping Equipment

"Pumping equipment" means any pump or other device used or intended for use in withdrawing or obtaining ground water, including, but not limited to, well seals and other safeguards to protect the ground water from contamination and any water lines up to and including the pressure tank and any coupling appurtenant thereto. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Pumps and pumping equipment" means equipment or materials used or intended for use in withdrawing or obtaining groundwater for any use, including without limitation, seals and other safeguards to protect the water from pollution and together with fittings and controls to provide sanitary water storage facilities.

Cross reference: Pump installing

Q

R

Repair

"Repair" means any work performed on a private water system for the purpose of servicing or replacing with a like component. Repair includes, without limitation, servicing or replacing pumps or pumping equipment, filtration or disinfection equipment, storage or pressure tanks, belts, couplings, switches, or fuses. Repair does not include an alteration to the casing or wall of a water well or the walls of a spring box or cistern. -- Ohio Admin. Code Section 3701-28 (1983)

"Repair" means any action which results in a breaking, opening, or replacement of a well seal or cap. Ark. Stat. Ann. Sections 21-2001-2020 (1984 Supp.)

"Repair" means any change, replacement, or other alteration of any well or pumping equipment which requires a breaking or opening of the well seal or any waterlines up to and including the pressure tank and any coupling appurtenant thereto. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Alteration

Reservoir

"Reservoir" means a facility for storage of water for drinking or culinary purposes constructed entirely or partially below the ground surface -- Wis. Admin. Code Sections NR 112.01 et seq.

Residence

"Residence" means a factual place of abode which simply requires bodily presence as an inhabitant in a given place. -- Ohio Admin. Code Sections 3701-28 (1983)

Rig

Rig means the machinery used in the construction or repair of water wells. As used in this definition the word "machinery" shall not be construed to include vehicles or any other equipment used in the transportation, or as the foundation, or any other component part, of the apparatus specifically designed and used in the construction or repair of water wells. Arkansas Water Well Construction Code Rules and Regulations (1982)

S

Sanitary Condition

"Sanitary condition"

(a) When referring to a well or reservoir means that the construction of the well or reservoir and the installation of the pumping equipment are such that the well or reservoir is effectively protected against entrance of contaminating matter.

(b) When referring to the surroundings of a well or reservoir means that the location and the surrounding area are free from debris or filth of any character and not subject to flooding.

-- Wis. Admin. Code Sections NR 112.01 et seq.

Seal

Seal. The impermeable material, such as cement grout, bentonite, or puddling clay, placed in the annular space between the borehole wall and the permanent casing, to prevent the downhole movement of surface water, or the vertical mixing of artesian waters. -- Idaho Well Construction Standards (Rev. 1982)

"Grout" means neat cement, inert natural materials, concrete, heavy drilling mud, or heavy bentonite water slurry impervious to and capable of preventing movement of water. All materials except neat cement and concrete when used as grout shall be of sufficient viscosity to require a time of at least seventy seconds to discharge one quart of the material through an API ("American Petroleum Institute") marsh funnel viscometer. -- Ohio Admin. Code Sections 3701-28 (1983)

Grout. A fluid mixture of cement and water (neat cement) of a consistency that can be forced through a pipe and placed as required. Various additives, such as sand, bentonite, and hydrated lime, are included in the mixture to meet certain requirements. For example, sand is added when a considerable volume of grout is needed. -- Manual of Water Well Construction Practices

Cross reference: Bentonite, Cement Grout, Clay Slurry, Puddled Clay

Seepage Bed

"Seepage bed" means an excavated area similar to a seepage trench but larger than 3 feet in width and containing more than one distribution line -- Wis. Admin. Code Sections NR 112.01 et seq.

Seepage Pit

"Seepage pit" means an underground receptacle so constructed as to permit disposal of septic tank effluent, milkhouse washwater, silage juices, clear water wastes and similar wastes by soil absorption through its walls and bottoms -- Wis. Admin. Code Sections NR 112.01 et seq.

Seepage Trench

"Seepage trench" means an area excavated 3 feet or less in width which contains a bedding of aggregate and a single distribution line. -- Wis. Admin. Code Sections NR 112.01 et seq.

Septic Tank

"Septic tank" means a watertight tank which receives sewage -- Wis. Admin. Code Sections NR 112.01 et seq.

"Septic tank" means a watertight tank of durable materials through which sewage flows very slowly and in which solids separate from the liquid to be decomposed or broken down by bacterial action. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Service Connection

"Service connection" means that point at which the private water system enters any structure used for agricultural purposes, building, or dwelling. Where no structure used for agriculture purposes, no building, or no dwelling exists, each water outlet shall be considered a service connection. -- Ohio Admin. Code Section 3701-28 (1983)

Sewage

"Sewage" means any water carried wastes created in and conducted away from residences, industrial establishments and public buildings with such surface or ground water as may be present and for the purposes of these rules includes any other liquid wastes except clear water wastes -- Wis. Admin. Code Sections NR 112.01 et seq.

Sewer

"Sewer" means a pipe or conduit carrying sewage or into which sewage may back up. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Source

"Source" means the site from which water is extracted for the purpose of supplying water to a private water system. Source exclusively includes a well, pond, spring box, cistern or water hauler. -- Ohio Admin. Code Sections 3701-28 (1983)

Standard Sample

"Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Static Water Level

"Static water level" means the distance measured from the established ground surface to the water surface in a well neither being pumped nor under the influence of pumping nor flowing under artesian pressure. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

"Static water level" means that elevation of the surface of the water in a well or water pressure at the top of a well, in the case of some artesian wells, when no water is being pumped or flows therefrom. In the case of artesian wells with a positive water pressure at the top of the well, the static water elevation is determined either by a stilling pipe or pressure gauge and under either condition water elevations are referred to the elevation of the top of the well or the ground grade at the well -- Wis. Admin. Code Sections NR 112.01 et seq.

Cross reference: Pumping water level

Suction Line

"Suction line" means a pipe or line connected to the inlet side of a pump or pumping equipment. -- Mich. Admin. Code R. 325.1601-

"Suction line" means a pipe or line connected to the inlet side of a pump or pumping equipment or any connection to a well casing that may conduct nonsystem water into the well because of negative pressures. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Sump

"Sump" means a tank or pit which receives sewage or other liquid wastes located below the normal grade of a gravity system and which must be emptied by mechanical means -- Wis. Admin. Code Sections NR 112.01 et seq.

"Sump" means a shallow excavation into an aquifer or ground in which the side walls may be supported by material other than steel casing. Water may enter the sump by drainage over the ground or by seepage through the side walls and bottom. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Supervision

Supervision means that a licensed driller shall be on the operating well at all times. Arkansas Water Well Construction Code Rules and Regulations (1982)

"Supervision" means personal and continuous on-the-site direction by a well construction contractor or pump installation contractor, unless the contractor has applied for and received from the state engineer an exemption from continuous on-the-site direction for a specific task. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Direct supervision" means that a registered water system contractor instructs and controls the person claimed to be supervised and that the contractor is responsible for the actions of that person and is available if and when needed, even though such registered water systems contractor is not physically present at the work site. -- Ohio Admin. Code Sections 3701-28 (1983)

Surface Water

"Surface water" means any water on the surface of the earth. Ohio Admin. Code Sections 3701-28 (1983)

"Surface water" means water that rests or flows on the surface of the ground. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Cross reference: Ground water, Near-surface water, Perched ground water

T

Telescoping

Telescoping. A method of fitting or placing one casing inside another, or of introducing screen through a casing diameter larger than the diameter of the screen. -- Manual of Water Well Construction Practices

Test Hole

"Test hole" includes any excavation that is drilled, cored, bored, washed, fractured, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for geotechnical, geophysical, or geologic investigation or soil- or rock-sampling. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Test hole" means any excavation, regardless of design or method of construction, done for the purpose of determining the most suitable site for removing ground water from an aquifer for use in a private water system. Ohio Admin. Code Section 3701-28 (1983)

Test Hole. Hole designed to obtain information on ground water quality and/or geological and hydrological conditions. -- Manual of Water Well Construction Practices

Cross reference: Exploration well, Monitoring well, Well

Tremie Pipe

Tremie Pipe. 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 appreciable air pockets. -- Manual of Water Well Construction Practices

Cross reference: Sealing

U

Unconfined Aquifer

"Unconfined aquifer" means an aquifer not bounded above by a bed of distinctly lower permeability than that of the aquifer itself and containing groundwater under pressure approximately equal to that of the atmosphere. This term is synonymous with the term "water table aquifer". -- Md. Admin. Code Title 10, Section 17.13.01-.12 (1984)

Cross reference: Aquifer, Confined aquifer

Unconsolidated Formation

Unconsolidated formations are naturally-occurring earth formations that have not been lithified. Alluvium, soil, gravel, clay, and overburden are some of the terms used to describe this type of formation. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Confining formation, Consolidated formation, Formation

United States and State

"United States" and "State" include the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United State Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possess over which the United States has jurisdiction -- Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 USC 9601

Unreasonable Adverse Effects on the Environment

The term "unreasonable adverse effects on the environment" means any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide -- Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC 136 et seq.

Cross reference: Environment, Protect health and environment

Y

Vertical Zone of Contamination

"Vertical zone of contamination" means that depth of geologic formations, generally near the ground surface, containing connecting pore spaces, crevices or similar openings, including artificial channels, such as unprotected wells, through which contaminated water may gain access to a well or the ground water body -- Wis. Admin. Code Sections NR 112.01 et seq.

W

Water System

Community Water System

"Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Cross reference: Municipal well, Public water system

Noncommunity Water System

"Non-community water system" means a public water system that is not a community water system. -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Private Water Supply

"Private water supply" means one or more sources of ground water, including facilities for storage and conveyance thereof, such as wells, springs, pumps, pressure tanks and reservoirs, on one property, other than those serving a public water system -- Wis. Admin. Code Sections NR 112.01 et. seq.

Cross reference: Private water system

Private Water System

"Private water system" means any water system for the provision of water for human consumption, if such system has fewer than fifteen service connections and does not regularly serve an average of at least twenty-five individuals daily at least sixty days out of the year. A private water system includes any well, spring, cistern, pond, or hauled water and any equipment for the collection, transportation, filtration, disinfection, treatment, or storage of such water extending from and including the source of the water to the point of discharge from any pressure tank or other storage vessel; to the point of discharge from the water pump where no pressure tank or other storage vessel is present; or, in the case of multiple service connections serving more than one dwelling, to the point of discharge from each service connection. A private water system does not include the water service line extending from the point of discharge to a structure. -- Ohio Admin. Code Section 3701-28 (1983)

Cross reference: Private water supply, Public water system

Public Water System

"Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in

connection with such system. A public water system is either a "community water system" or a "noncommunity water system". -- Environmental Protection Agency National Interim Primary Drinking Water Regulations, 40 CFR 141

Cross reference: Community water system, Municipal well, Private water system

Water Table

Water Table. That surface in an unconfined water body at which the pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the water body just far enough to hold standing water. -- Manual of Water Well Construction Practices

Well

Abandoned Well

Abandoned Well. A well whose original purpose and use have been permanently discontinued or which is in such a state of disrepair that its original purpose cannot be reasonably achieved. -- Manual of Water Well Construction Practices

"Abandoned water well" means a well whose use has been permanently discontinued, or a well which is in such disrepair that its continued use for the purpose of obtaining groundwater is impracticable or may be a health hazard shall be considered to be abandoned. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Cross reference: Abandonment

Artesian Well

Artesian Well. A well in an aquifer where the ground water is confined under pressure and the water level stands above the top of the confined water body it taps. -- Manual of Water Well Construction Practices

"Artesian well" means a well obtaining water from an aquifer under hydrostatic pressure. -- Colo. Rev. Stat. Section 37-91-101 to 37-91-112 (Supp. 1985)

"Artesian well" means a well that penetrates an artesian aquifer. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

Cross reference: Flowing artesian well

Dewatering Well

"Dewatering well" includes any excavation that is drilled, cored, bored, washed, fractured, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for temporary dewatering purposes for construction only. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112 (Supp. 1985)

"Dewatering well" means an opening in the surface of the earth for the purpose of removing water with the intent of lowering the groundwater level temporarily during a construction period. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Domestic Well

"Domestic well" means a well used for ordinary household purposes, the watering of farm livestock, poultry, and domestic animals, and the irrigation of home gardens and lawns. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Drilled Well

Drilled Well. A well for which the hole is generally excavated by mechanical means such as the rotary or cable tool methods -- Manual of Water Well Construction Practices

Driven Point Well

"Driven point well" means a well constructed by joining a "drive point" with a length of pipe, extended as may be necessary, and driving the assembly into the ground, without a preliminary excavation in excess of 10 feet in depth. All other types of wells, including those constructed by a combination of jetting and driving, are drilled type wells -- Wis. Admin. Code Sections NR 112.01 et. seq.

Dug Well

"Dug well" means a well excavated into a generally shallow aquifer in which the side walls may be supported by material other than standard weight steel casing. Water enters a dug well by seepage through the side walls and bottom. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Earth-Coupled, Closed-Loop Heat Pump System

An earth coupled closed loop heat pump system consists of continuous, unbroken pipe system, laid in a vertical or horizontal formation, in which the pipe is connected to a heat exchanger and circulates a heat exchange liquid. -- Bryan, Ohio City Ordinance No. 33, 1983

Cross reference: Ground water-source heat pumps, Water-source heat pumps

Exploration Well

"Exploration well" means a well drilled in search of geophysical, mineralogical or geotechnical data. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

Cross reference: Test hole

Flowing Artesian Well

"Flowing artesian well" means an artesian well in which the pressure is sufficient to cause the water to rise above the land surface. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

Cross reference: Artesian well

Gravel Packed Well

Gravel Packed Well. A well in which filter material is placed in the annular space to increase the effective diameter of the well, and to prevent fine-grained sediments from entering the well. Manual of Water Well Construction Practices

Ground Water-Source Heat Pumps

A ground water-source heat pump consists of one or more factory-made assemblies which normally include an indoor conditioning coil with air moving means, compressor(s) and refrigerant-to-water heat exchanger(s), including means to provide a heating function and may include a cooling function. --Air-Conditioning and Refrigeration Institute Standard for Ground Water-Source Heat Pumps, 325-83

Cross reference: Earth-coupled, closed-loop heat pump systems; Water-source heat pumps

Injection Well

Injection well means a "well" into which "fluids" are being injected -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Cross reference: Waste disposal well, Well injection

Irrigation, Industrial or Commercial Well

"Irrigation, industrial, or commercial well" means any well constructed for the purpose of obtaining water to be used beneficially but not for human consumption. -- Colo. Rev. Stat. Section 37-91-101 to 37-91-112, amended 5-22-85

Monitoring Well

"Monitoring and observation well" includes any excavation that is drilled, cored, bored, washed, fractured, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for locating such well, pumping equipment or aquifer testing, monitoring ground water, or collection of water quality samples. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Monitor well" means an exploration well drilled for the purpose of monitoring water levels or water quality. -- Ariz. Admin. Comp. R. 12-15-801 to -821 (1983)

"Monitoring well" means any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed for the purpose of extracting groundwater for physical, chemical, or biological testing. "Monitoring well" includes "groundwater quality sampling well" as that phrase is used in Minnesota Statutes, Section 156A.03, subdivision 3. -- Minnesota Rules, Chapter 4725.0100-4725.1860

Cross reference: Test hole

Municipal Well

"Municipal well" means a well used by a municipal corporation and the inhabitants thereof, primarily to promote the life, safety, health, comfort, and business pursuits of the inhabitants, but does not include the irrigation of crops, although within the corporate boundaries. -- Colo. Rev. Stat. Section 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Community water system, Public water system

Waste Disposal and Injection Well

A waste disposal and injection well is any excavation or artificial opening into the ground more than 18 feet in vertical depth below land surface which is constructed by any percussion, rotary, boring, digging, jetting, or augering machine and which is used for or intended to be used for the subsurface disposal of any liquid or solid material which may affect the groundwaters of the state. -- Idaho Well Construction Standards (Rev. 1982)

Cross reference: Injection well, Well injection

Water-Source Heat Pumps

A water-source heat pump consists of one or more factory-made assemblies which normally include an indoor conditioning coil with air moving means, compressor(s) and refrigerant-to-water heat exchanger(s), including means to provide both cooling and heating functions. -- Air-Conditioning and Refrigeration Institute Standard for Water-Source Heat Pumps, 320-81

Cross reference: Earth-coupled, closed-loop heat pump systems; Ground water-source heat pumps

Water Well

"Water Well" means any excavation that is drilled, redrilled, cored, bored, washed, driven, dug jetted, or otherwise artificially constructed for the purpose of locating, acquiring, diverting or artificially recharging ground water; but such terms does (do) not include an excavation made for the purpose of obtaining or for prospecting for oil, natural gas, minerals, or products of mining or quarrying, or for inserting media to repressure oil or natural gas bearing formation or for storing petroleum, natural gas, or other products. -- Ark. Stat. Ann. Sections 21-2001-2020 (1984 Supp.)

A water well is an artificial excavation or opening into the ground more than 18 feet in vertical depth below the land surface by which groundwater is sought or obtained. -- Idaho Well Construction Standards (Rev. 1982)

Well

Well means a bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

"Well" means an excavation or opening into the ground made by digging, boring, drilling, driving or other methods for the purpose of obtaining ground water for human consumption -- Wis. Admin. Code Sections NR 112.01 et seq.

"Well" means any excavation regardless of design or method of construction done or used for the purpose of removing ground water from an aquifer, and for the purpose of determining the quality, quantity, or level of ground water. -- Ohio Admin. Code Sections 3701-28 (1983)

"Well" for the purpose of this article means any test hole or other excavation that is drilled, cored, bored, washed, fractured, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for the location, monitoring, dewatering, observation, diversion, artificial recharge, or acquisition of ground water or for conducting pumping equipment or aquifer tests. "Well" does not include certain types of monitoring and observation wells, dewatering wells, and test holes that the board specifies in rules and regulations in order to allow for their construction, utilization, and abandonment by other than a well construction contractor, nor does such term include an excavation made for the purpose of obtaining or prospecting for minerals or those wells subject to the jurisdiction of the oil and gas conservation commission, as provided in article 60 of title 34, C.R.S., or those wells subject to the jurisdiction of the mined land reclamation division, as provided in article 33 of title 34, C.R.S. Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Well" means any hole made in the ground to explore for groundwater, to obtain or monitor groundwater, or to inject water into any underground formation from which groundwater may be produced. -- Md. Admin. Code Title 10, Sections 17.13.01-.12 (1984)

Cross reference: Test hole, Well Construction

Well Cap

"Well cap" means an approved removable non-watertight apparatus or device used to cover a well -- Wis Admin. Code Sections NR 112.01 et seq.

Well Construction

Water Well Construction means all acts necessary to obtaining ground water by wells, including excavation of the well, but excluding the procedure employed in the placement and preparation

for operation of pumps and pumping equipment, and also excluding the construction involved in making entrance into the well, and establishment of such seals and safeguards, as may be necessary in the installation of such pumps and pumping equipment and materials to protect such water from contamination. Arkansas Water Well Construction Code Rules and Regulations (1982)

"Well drilling" is defined as the industry and procedure employed in obtaining ground water from a well by digging, boring, drilling, driving or other methods but not including the driving of points for the purpose of obtaining ground water. It shall also include all construction work and installation of well casings in said well involved therein for the protection for such well water against pollution -- Wis. Stat. Ann. Sections 162.01 et seq.

Cross reference: Well

Well Contractor

Well Contractor

"Well driller" means any person, firm or corporation who has duly registered as such with the department, has paid the annual registration fee and has obtained a permit to construct wells. -- Wis. Admin. Code Sections NR 112.01 et seq.

"Well drilling contractor" means a person qualified to engage in well construction, well alteration, or well repair and pump installation, who supervises the construction of water wells and the installation of pumps, and who owns, rents, or leases equipment used in the construction of water wells. -- Mich. Comp. Laws Ann. Section 333.12701-.12715 (West 1980 & Supp. 1985)

"Water systems contractor" means any person engaged in the business of constructing, developing, installing, disinfecting, treating, abandoning, servicing or altering all or any part of a private water system. -- Ohio Admin. Code Section 3701-28 (1983)

"Water Well Contractor" means any person who engages in the business of constructing, altering, or repairing any water well, exclusive of surveying or other acts preparatory to the construction of a water well. Ark. Stat. Ann. Sections 21-2001-202 (1984 Supp.)

"Well construction contractor" means any person licensed pursuant to this article and responsible for the construction, test-pumping, or development of wells, either by contract or for hire or for any consideration whatsoever. -- Colo Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

"Water Well Driller" means any natural person, whether or not connected with a firm, partnership, corporation, or other public or private association, who engages for compensation in the construction, alteration or repair of any water well in this State. -- Ark. Stat. Ann. Sections 21-2001-2020 (1984 Supp.)

"Water Well Driller" shall mean any person (including owner operator, and drilling supervisor) who engages for compensation in the drilling, boring, coring, or construction of any water well in this State. The term, however, shall not include any person who drills, bores, cores, or constructs a water well on his own property for his own use or a person who assists in the construction of a water well under the direct supervision of a licensed water well driller and is not primarily responsible for the drilling operations. -- Tex. Stat. Ann. Art. 7621e (Vernon 1983)

Cross reference: Private driller

Private Driller

"Private driller" means any person who constructs a well entirely for his own use on property owned or controlled by him, with equipment owned and operated by him. -- Colo. Rev. Stat. Sections 37-91-101 to 37-91-112, amended 5-22-85

Cross reference: Well construction contractor

Well Injection

Well injection means the subsurface emplacement of "fluids" through a bored, drilled, or driven "well;" or through a dug well, where the depth of the dug well is greater than the largest surface dimension. -- Environmental Protection Agency Permit Regulations for the Underground Injection Control Program, 40 CFR 144

Cross reference: Injection well, Waste disposal well

Well Seal

"Well seal" means an approved removable apparatus or device used as follows:

- (a) To close the well opening watertight or to establish and maintain a watertight junction between the upper terminal or protective casing or curbing of a well and the piping or equipment installed therein, so as to prevent water from entering the well; or

(b) To establish and maintain a watertight junction between the basement end of non-pressure pipe conduit, installed between a well and a building basement, and the pump piping installed within the conduit.

-- Wis. Admin. Code Sections NR 112.01 et seq.

Well Seal means an arrangement or device used to cap a well or to establish closure of the junction of a well pump or piping with the well casing at the upper terminal of the well. -- Arkansas Water Well Construction Code Rules and Regulations (1982)

"Well seal" means an approved arrangement or device used to cover a well or to establish and maintain a junction between the casing or curbing of a well and the piping or equipment installed therein, the purpose or function of which is to prevent contaminated water or other material from entering the well at the upper terminal. -- Colo. Rev. Stat. Section 37-91-101 to 37-91-112, amended 5-22-85

"Well seal" means a device or method used to protect a well casing or water system from the entrance of any external pollutant at the point of entrance into the casing of a pipe, electric conduit or water level measuring device. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Cross reference: Well cap

Well Vent

"Well vent" means an outlet at the upper end of the well casing or basement end of a non-pressure conduit to allow equalization of air pressure in the well -- Wis. Admin. Code Sections NR 112.01 et seq.

"Well vent" means an outlet at the upper terminal of a well casing to allow equalization of air pressure in the well and escape of toxic or flammable gases when present. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

X

Y

Yield

"Yield" means the quantity of water which may flow or be pumped from the well per unit of time -- Wis. Admin. Code Sections NR 112.01 et seq.

"Yield" or "production" means the quantity of water per unit of time which may flow or be pumped from a well under specified conditions. -- Mich. Admin. Code R. 325.1601-.1777 (1979)

Z

Zone of Aeration

Zone of Aeration. The zone above the water table in which the interstices are partly filled with air. The term is replaced by "unsaturated zone". It includes the capillary fringe. -- Manual of Water Well Construction Practices

Zone of Saturation

Zone of Saturation. The zone below the water table in which all interstices are filled with ground water. -- Manual of Water Well Construction Practices

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