

**WAC 173-160-381 What are the standards for decommissioning a well?** Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned. The decommissioning procedure (as prescribed by these regulations) must be recorded and reported as required by the department.

(1) Cased wells. Remove all liners, debris, accumulated sediments, and obstructions from the well casing, except well screens and packers. All cased water wells, including driven and jetted wells shall be decommissioned in one of the following ways:

(a) Perforate the casing from the bottom to within five feet of the land surface and pressure seal the casing.

(i) Perforations shall be at least four equidistant cuts per row, and one row per foot. The perforations must be sufficient enough to allow neat cement grout or neat cement, or bentonite slurry to migrate outside the casing and effectively prevent the movement of water.

(ii) Apply enough pressure to force the sealing material through the perforations, filling any voids on the outside of the casing.

(iii) The casing shall be filled completely with neat cement grout, neat cement, or bentonite slurry. The screen and up to five feet of riser pipe may be filled with unhydrated bentonite. The remainder of the riser pipe must be removed.

(iv) The casing may be cut off at a maximum of five feet below land surface; or

(b) Withdraw the casing and fill the bore hole with concrete, neat cement grout, neat cement, unhydrated bentonite, or bentonite slurry as the casing is being withdrawn.

(2) Uncased wells - Remove all liners, debris, accumulated sediments, and obstructions. Seal uncased wells with concrete, neat cement grout, neat cement, or bentonite.

(3) Dug wells -

(a) The following criteria are required for the decommissioning of all dug wells:

(i) Remove all debris, accumulated sediments, and obstructions that impede decommissioning or that may contaminate the aquifer from within the dug well.

(ii) Dug wells may have a maximum of three feet of soil cover from top of sealing material to land surface.

(iii) Dug wells shall be sealed with either unhydrated bentonite, neat cement, neat cement grout, or concrete. The use of controlled density fill (CDF), bentonite slurry, or fly ash is prohibited.

(iv) Dug wells that are not cast-in-place must have a minimum of three feet of sealing material in contact with native soil below land surface.

(b) Dug wells less than twenty feet deep.

(i) Dry wells (dry at any time during the year). Decommission by placing unhydrated bentonite, neat cement, neat cement grout or concrete from the bottom to within three feet of land surface.

(ii) Static water level ten feet or less from land surface. Decommission by placing clean chlorinated sand or pea gravel to a maximum depth of ten feet below land surface. The remainder of the well shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete to within three feet of land surface.

(iii) Static water level of greater than ten feet from land surface. Decommission by placing clean chlorinated sand or pea gravel to the static level. The remainder of the well shall be filled with unhy-

drated bentonite, neat cement, neat cement grout, or concrete to within three feet of land surface.

(c) Dug wells twenty feet or greater in depth.

(i) Static water level twenty feet or less from the land surface. Decommission by placing chlorinated sand or pea gravel to twenty feet below land surface. The remainder of the well shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete to within three feet of land surface.

(ii) Static water level greater than twenty feet from land surface. These wells may be decommissioned by placing chlorinated sand or pea gravel to the static level and then placing alternating layers of sealing material and chlorinated sand or pea gravel to within twenty feet of land surface. The alternating layers of sand or pea gravel must be a maximum of five feet thick. The minimum thickness of the sealing layers must be five feet. The remainder of the well shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete to within three feet of land surface.

(4) Flowing artesian wells that are not leaking on the outside of the casing shall be decommissioned by pressure grouting with neat cement or weighted high solids bentonite slurry from the bottom of the well bore to land surface. If the well is leaking on the outside of the casing or if leaking develops while the decommissioning method above is employed, then the casing must be perforated and pressure grouted to replace all confining layers and to stop leakage.

(5) Placement of sealing material.

(a) Sealing material placed below the water level shall be piped directly to the point of application or placed by means of a dump bailer or pumped through a tremie tube. As the sealing material is placed, the existing well tile may be encapsulated into the seal material. If concrete, neat cement grout, bentonite, bentonite slurry, or neat cement is used to seal below the static water level in the well, the material shall be placed from the bottom up by methods that avoid segregation or dilution of the material. When used to place concrete, neat cement, neat cement grout, or bentonite slurry the discharge end of the tremie tube shall be submerged in the sealing material to avoid breaking the seal while filling the annular space.

(b) All authorized sealing material placed above the static water level or into the dewatered portion of the well may be hand poured above the static water level, provided the material does not dilute or segregate, and result in a seal free of voids.

(c) When decommissioning wells that were originally constructed without casing, unhydrated bentonite chips or pellets may be hand placed, provided it forms a continuous seal.

[Statutory Authority: Chapter 18.104 RCW. WSR 09-01-125 (Order 08-10), § 173-160-381, filed 12/19/08, effective 1/19/09; WSR 07-06-004 (Order 06-16), § 173-160-381, filed 2/22/07, effective 3/25/07; WSR 06-23-121 (Order 06-08), § 173-160-381, filed 11/21/06, effective 12/22/06. Statutory Authority: Chapter 18.104 RCW and RCW 43.21A.080. WSR 98-08-032 (Order 97-08), § 173-160-381, filed 3/23/98, effective 4/23/98.]