

### **15A NCAC 02C .0113 ABANDONMENT OF WELLS**

(a) A well that is temporarily removed from service shall be temporarily abandoned in accordance with the following procedures:

- (1) The well shall be sealed with a water-tight cap or well seal, as defined in G.S. 87-85(16), compatible with the casing and installed so that it cannot be removed without the use of hand tools or power tools.
- (2) The well shall be maintained whereby it is not a source or channel of contamination during temporary abandonment.

(b) Permanent abandonment of water supply wells other than bored or hand dug wells shall be performed in accordance with the following procedures:

- (1) All casing and screen materials may be removed prior to initiation of abandonment procedures if such removal will not cause or contribute to contamination of the groundwaters.
- (2) The entire depth of the well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations.
- (3) Except in the case of temporary wells and monitoring wells, the well shall be disinfected in accordance with Rule .0111(b)(1)(A) through .0111(b)(1)(C) of this Section.
- (4) In the case of gravel-packed wells in which the casing and screens have not been removed, neat-cement or bentonite slurry grout shall be injected into the well, completely filling it from the bottom of the casing to the top.
- (5) Wells constructed in unconsolidated formations shall be completely filled with grout by introducing it through a pipe extending to the bottom of the well that can be raised as the well is filled.
- (6) Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with grout, sand, gravel or drill cuttings within the zones of consolidated rock. The top of any sand, gravel or cutting fill shall terminate at least 10 feet below the top of the consolidated rock or five feet below the bottom of casing. Grout shall be placed beginning 10 feet below the top of the consolidated rock or five feet below the bottom of casing in a manner to ensure complete filling of the casing, and extend up to the land surface. For any well in which the depth of casing or the depth of the bedrock is not known or cannot be confirmed, the entire length of the well shall be filled with grout up to the land surface.

(c) For bored wells or hand dug water supply wells constructed into unconsolidated material:

- (1) The well shall be disinfected in accordance with Rule .0111(b)(1)(A) through .0111(b)(1)(C) of this Section.
- (2) All plumbing or piping in the well and any other obstructions inside the well shall be removed from the well.
- (3) The uppermost three feet of well casing shall be removed from the well.
- (4) All soil or other subsurface material present down to the top of the remaining well casing shall be removed, including the material extending 12 inches or greater outside of the well casing;
- (5) The well shall be filled to the top of the remaining casing with grout, dry clay, or material excavated during construction of the well. If dry clay or material excavated during construction of the well is used, it shall be emplaced in lifts no more than five feet thick, each compacted in place prior to emplacement of the next lift.
- (6) A six-inch thick concrete grout plug shall be placed on top of the remaining casing such that it covers the entire excavated area above the top of the casing, including the area extending 12 inches or greater outside the well casing.
- (7) The remainder of the well above the concrete plug shall be filled with grout or soil.

(d) All wells other than water supply wells, including temporary wells, monitoring wells, or test borings:

- (1) less than 20 feet in depth that do not penetrate the water table shall be abandoned by filling the entire well up to land surface with grout, dry clay, or material excavated during drilling of the well and then compacted in place;
- (2) greater than 20 feet in depth or that penetrate the water table shall be abandoned by completely filling with a bentonite or cement - type grout; and
- (3) constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with grout, sand, gravel, or drill cuttings within the zones of consolidated rock. The top of any sand, gravel or cutting fill shall terminate 10 feet or greater below the top of the consolidated rock or five feet below the bottom of the casing. Grout shall be placed beginning 10 feet below the

top of the consolidated rock or five feet below the bottom of the casing in a manner to ensure complete filling of the casing and shall extend up to the land surface. For any well in which the depth of the casing or the depth of the bedrock is not known or cannot be confirmed, the entire length of the well shall be filled with grout up to the land surface.

(e) Any well that acts as a source or channel of contamination shall be repaired or permanently abandoned within 30 days of receipt of notice from the Department.

(f) All wells shall be permanently abandoned in which the casing has not been installed or from which the casing has been removed, prior to removing drilling equipment from the site.

(g) The well owner is responsible for permanent abandonment of a well except that:

- (1) the well contractor is responsible for well abandonment if abandonment is required because the well contractor improperly locates, constructs, repairs or completes the well;
- (2) the person who installs, repairs or removes the well pump is responsible for well abandonment if that abandonment is required because of improper well pump installation, repair or removal; or
- (3) the well contractor (or individual) who conducts a test boring is responsible for its abandonment at the time the test boring is completed.

*History Note: Authority G.S. 87-87; 87-88;  
Eff. February 1, 1976;  
Amended Eff. September 1, 2009; April 1, 2001; December 1, 1992; September 1, 1984; April 20, 1978;  
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