

15A NCAC 02C .0113 ABANDONMENT OF WELLS

- (a) Any well which has been temporarily abandoned, shall be abandoned in accordance with one of the following procedures:
 - (1) Upon temporary removal from service or prior to being put into service, the well shall be sealed with a water-tight cap or seal compatible with casing and installed so that it cannot be removed easily by hand.
 - (2) The well shall be maintained whereby it is not a source or channel of contamination during temporary abandonment.
 - (3) Every temporarily abandoned well shall be protected with a casing.
- (b) Any well which has been abandoned permanently shall be abandoned in accordance with the following procedures:
 - (1) Procedures for permanent abandonment of wells, other than bored and hand dug wells:
 - (A) 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. Any casing not grouted in accordance with 15A NCAC 2C .0107(e) of this Section shall be removed or properly grouted.
 - (B) The entire depth of the well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations.
 - (C) Using a hypochlorite solution (such as HTH), disinfect the well in accordance with 15A NCAC 2C .0111. Do not use a common commercial household liquid bleach, as this is too weak a solution to ensure proper disinfection.
 - (D) In the case of gravel-packed wells in which the casing and screens have not been removed, neat-cement, or bentonite grout shall be injected into the well completely filling it from the bottom of the casing to the top.
 - (E) Wells, other than "bored" wells, constructed in unconsolidated formations shall be completely filled with cement grout, or bentonite grout by introducing it through a pipe extending to the bottom of the well which can be raised as the well is filled.
 - (F) Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with cement grout, bentonite grout, sand, gravel or drill cuttings opposite the zones of consolidated rock. The top of the cement grout, bentonite grout, 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. Cement grout or bentonite grout shall be placed beginning 10 feet below the top of the consolidated rock or five feet below the bottom of casing and extend five feet above the top of consolidated rock. The remainder of the well, above the upper zone of consolidated rock, shall be filled with cement grout or bentonite grout up to land surface. For any well in which the depth of casing or the depth of the bedrock is not known or cannot be confirmed, then the entire length of the well shall be filled with cement grout or bentonite grout up to land surface.
 - (G) Temporary wells or monitor wells:
 - (i) less than 20 feet in depth which do not penetrate the water table shall be abandoned by filling the entire well up to land surface with cement grout, dry clay, bentonite grout, or material excavated during drilling of the well and then compacted in place; and
 - (ii) that penetrate the water table shall be abandoned by completely filling with a bentonite 60 or cement - type grout.

- (2) For bored wells or hand dug wells, constructed into unconsolidated material.
- (A) For wells that do not have standing water in them at any time during the year:
- (i) Remove all plumbing or piping entering the well, along with any obstructions in the well;
 - (ii) Remove as much of the well casing as possible and then fill the entire well up to land surface with cement grout, concrete grout, bentonite grout, dry clay, or material excavated during drilling of the well and then compacted in place.
- (B) For wells that do have standing water in them during all or part of the year:
- (i) Remove all plumbing or piping into the well, along with any obstructions inside the well; and
 - (ii) Remove as much of the well tile casing as possible, but no less than to a depth of three feet below land surface;
 - (iii) Remove all soil or other subsurface material present down to the top of the remaining well casing, and extending to a width of at least 12 inches outside of the well casing on all sides;
 - (iv) Using a hypochlorite solution (such as HTH), disinfect the well in accordance with 15A NCAC 2C .0111 of this Subchapter. Do not use a common commercial household liquid bleach, as this is too weak a solution to ensure proper disinfection;
 - (v) Fill the well up to the top of the remaining casing with cement grout, concrete grout, bentonite grout, dry clay, or material excavated during drilling of the well and then compacted in place;
 - (vi) Pour a one foot thick concrete grout or cement grout plug that fills the entire excavated area above the top of the casing, including the area extending on all sides of the casing out to a width of at least 12 inches on all sides; and
 - (vii) Complete the abandonment process by filling the remainder of the well above the concrete or cement plug with additional concrete grout, cement grout, or soil.
- (c) Any well which acts as a source or channel of contamination shall be repaired or permanently abandoned within 30 days of receipt of notice from the department.
- (d) The drilling contractor shall permanently abandon any well in which the casing has not been installed or from which the casing has been removed, prior to removing his equipment from the site.
- (e) The owner shall be responsible for permanent abandonment of a well except that:
- (1) the well driller is responsible for well abandonment if abandonment is required because the driller improperly locates, constructs, repairs or completes the well; or
 - (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.

History Note: Authority G.S. 87-87; 87-88;

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