

### **15A NCAC 05H .1618 REQUIREMENTS FOR PERMANENT CLOSURE OF OIL OR GAS WELLS**

- (a) All lost holes, dry holes, and oil or gas wells incapable of production shall be plugged and abandoned. In addition to the requirements detailed within this Rule, all plugging and abandonment activities shall meet the standards in API Recommended Practice 51-R "Environmental Protection for Onshore Oil and Gas Production Operations and Leases," and API Bulletin E3 "Environmental Guidance Document: Well Abandonment and Inactive Well Practices for U.S. Exploration and Production Operations," which are incorporated by reference, including subsequent amendments and editions. These documents may be viewed online for no charge at <http://publications.api.org/>.
- (b) The permittee shall plug and abandon lost holes and dry holes prior to releasing the drilling rig from the well pad.
- (c) Non-drillable material that would prevent re-entry of an oil or gas well shall not be placed in any wellbore.
- (d) Trash or refuse shall not be used as plugging and abandonment material.
- (e) Conductor casing or surface casing shall not be removed from any wellbore during plugging and abandonment operations.
- (f) All pits or tanks utilized during oil or gas well plugging and abandonment operations to contain waste shall conform to Rule .1504 of this Subchapter.
- (g) Cement or mechanical bridge plugs shall be placed within the wellbore to isolate hydrocarbon bearing zones, prevent migration of fluids in the wellbore, protect fresh groundwater aquifers, and prevent surface water from entering the wellbore. All plugs used for plugging and abandonment shall meet the following requirements:
- (1) all cement used to plug an oil or gas well shall conform to Rule .1606 of this Section;
  - (2) cement plugs shall be placed by circulation using tubing, casing, or drill pipe;
  - (3) all intervals between the cement and mechanical bridge plugs shall be filled with a bentonite-based mud that has a minimum weight of nine and one half pounds per gallon;
  - (4) vertical wellbores shall have cement plugs placed in the following intervals:
    - (A) from the total depth to a minimum of 100 feet above the top of the deepest hydrocarbon bearing zone or alternatively, from a minimum of 50 feet below the base of the deepest hydrocarbon bearing zone penetrated to a minimum of 100 feet above the top of the deepest hydrocarbon bearing zone;
    - (B) from a minimum of 50 feet below to a minimum of 100 feet above each succeeding hydrocarbon bearing or fresh groundwater zone, not isolated by intermediate or surface casing;
    - (C) from a minimum of 100 feet below to a minimum of 100 feet above the base of intermediate and surface casing strings; and
    - (D) from a minimum of 200 feet below ground surface to three feet below ground surface.
  - (5) horizontal wellbores shall have cement plugs placed in accordance with Parts (g)(4)(A) through (g)(4)(D) of this Rule with the exception that the bottom plug, as outlined in Part (g)(4)(A) of this Rule, shall be placed at the depth of the well curve kick-off point and extend above that point a minimum of 200 feet; and
  - (6) if mechanical bridge plugs are used, the plug shall be set directly above each zone identified in Parts (g)(4)(A) through (g)(4)(D) of this Rule and covered with a minimum of 50 feet of cement.
- (h) All casing remaining in the wellbore shall be cut off a minimum of three feet below ground surface.
- (i) The top of the wellbore shall be sealed with a steel plate that is welded in place and the API number for the oil or gas well shall be identifiable on the steel plate.
- (j) All ratholes and mouseholes shall be filled with bentonite or cement to a depth of three feet below ground surface, and then filled to the surface with soil.
- (k) All flowlines shall be flushed with freshwater and the ends of the lines shall be capped and buried at least three feet below the ground surface. All freshwater used to flush lines shall be disposed of in accordance with the approved Waste Management Plan in Rule .2002 of this Subchapter.

*History Note:* Authority G.S. 113-391(a)(2); 113-395(c);  
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