

Landowner Responsibilities for Abandonment and Plugging of Wells

Department of Natural Resources

Temporary Abandonment Of Wells 312 IAC 13-10-1

Sec.1.

A well which has not been used for more than three (3) months without being permanently abandoned must be sealed at or above the ground surface by a welded, threaded, or mechanically attached watertight cap. The well shall be maintained so that the well does not become a source or channel of ground water contamination.

Permanent abandonment of wells 312 IAC 13-10-2

Sec.2.

Wells abandoned before January 1, 1988

(a) A well abandoned before January 1, 1988, must be sealed at or above the ground surface by a welded, threaded, or mechanically attached watertight cap. The well shall be maintained so the well does not become a source or channel of ground water contamination. A well that poses a hazard to human health must also be plugged under subsection (c). **A cased or uncased bucket well or a hand dug well** (other than buried slab construction) that was abandoned before **January 1, 1988**, shall be closed in conformance with one (1) of the following procedures:

- (1) Covered with a reinforced concrete slab at least four (4) inches thick and having a diameter larger than the nominal diameter of the borehole or the well casing.
- (2) Equipped with a properly reinforced cover constructed of pressure treated lumber, using chromium copper arsenic salt, that has dimensions larger than the nominal diameter of the borehole or

well casing. The cover shall be protected against the water with roofing or other water repelling materials that are properly maintained to ensure the integrity of the cover. Closure shall not be performed under this subdivision, however, if the cover is in direct contact with ground water or surface water.

- (3) Closed as otherwise approved by the division.
- (b) A well drilled before **January 1, 1988**, and abandoned before **January 1, 1994**, shall be sealed at or above the ground surface by a welded, threaded, or mechanically attached watertight cap. The well shall be maintained so the well does not become a source or channel of ground water contamination. A well that poses a hazard to human health must also be plugged under subsection
- (c) A well abandoned after **December 31, 1987**, shall be plugged with an impervious grouting material to prevent the migration of materials or fluids in the well and the loss of pressure in a confined aquifer.
- (d) A well drilled after **December 31, 1987**, and **not equipped with casing** must be plugged within seventy-two (72) hours after completion.
- (e) This subsection applies as follows to a cased or uncased well abandoned after **December 31, 1987**:
 - (1) **The plugging material** must consist of one (1) or a combination of the following:
 - (A) Neat cement with not more than five percent (5%) by weight of bentonite additive.

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- (B) Bentonite slurry (which can include polymers designed to retard swelling).
- (C) Pelletized, medium grade, or coarse grade crushed bentonite.
- (D) Other materials approved by the commission.
- (2) The following **methods** apply:
- (A) Cement and bentonite slurries shall be pumped into place in a continuous operation with a grout pipe introducing the plugging material at the bottom of the well and moving the pipe progressively upward as the well is filled.
- (B) Plugging materials other than neat cement or bentonite slurry shall be installed in a manner to prevent bridging of the well or borehole. The well or borehole shall be measured periodically throughout the plugging process to ensure that bridging does not occur.
- (3) The following **procedures** apply:
- (A) An abandoned well shall be disconnected from the water system. Any substance that may interfere with plugging shall be removed, if practicable.
- (B) A well (other than a monitoring well, a dewatering well, or an uncased borehole) shall be chlorinated before abandonment as provided in 312 IAC 13-9-1.
- (4) A **cased well** shall be plugged as follows:
- (A) With neat cement, bentonite slurry, or medium grade or coarse grade crushed or pelletized bentonite from the bottom of the well to within two (2) feet below the ground surface unless otherwise provided by the department.
- (B) The well casing shall be severed at least two (2) feet below the ground surface, and a cement plug larger in diameter than the borehole shall be constructed over the borehole and covered with natural clay material to the ground surface.
- (5) An **uncased well** (other than a borehole drilled by a bucket rig or a dewatering well governed by subdivision (8) or (9)), shall be filled with natural clay materials, neat cement, bentonite slurry, or medium grade or coarse grade crushed or pelletized bentonite from the bottom of the borehole to a depth of no less than twenty-five (25) feet below ground surface. The borehole shall be filled with neat cement or medium grade or coarse grade crushed or pelletized bentonite from a depth no less than twenty-five (25) feet below ground surface to within two (2) feet below ground surface. The remaining borehole shall be filled with natural clay material to ground surface.
- (6) A **cased or uncased monitoring well** shall be plugged from the bottom of the well or borehole to the ground surface with a bentonite slurry or pelletized or coarse grade crushed bentonite.
- (7) A **bucket well** shall be plugged as follows:
- (A) A **bucket well installed as buried slab construction** shall be filled with gravel from the bottom of the well to within ten (10) feet below the ground surface. Neat cement, bentonite slurry, or pelletized, medium grade, or coarse grade crushed bentonite shall be installed in the casing or well pipe from no less than ten (10) feet below the ground surface to within two (2) feet below the ground surface. The well pipe shall be severed at least two (2) feet below the ground surface and covered with

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a cement plug larger in diameter than the well pipe. The remaining hole shall be filled with natural clay material to the ground surface.

(B) Bucket well construction using casing with an inside diameter of less than twelve (12) inches extending the entire length of the borehole and equipped with a well screen shall be abandoned under subdivision (4)(A).

(C) An uncased borehole drilled by a bucket rig shall be filled with natural clay material from the bottom of the hole to the ground surface. The clay material shall be thoroughly tamped to minimize settling.

(D) For other than buried slab construction, a bucket well shall be filled with gravel from the bottom of the well to at least five (5) feet below ground surface. The top section of the concrete or tile well casing shall be removed to cause the top of the well to terminate below ground surface. The well shall be filled with at least one (1) foot of neat cement, bentonite slurry, or pelletized, medium grade, or coarse grade crushed bentonite from at least five (5) feet below ground surface to the top of the well casing. The well casing shall be covered with a cement plug larger in diameter than the borehole. The remaining hole shall be filled with natural clay material to ground surface.

- (8)** If a **dewatering well** casing is removed following use, the remaining borehole shall initially be filled with granular, pelletized, medium grade, or coarse grade crushed bentonite a minimum of one (1) foot thick. The remainder of the borehole shall be filled with natural earth materials obtained during the

drilling process to the ground surface and be thoroughly tamped to minimize settling.

- (9)** If a **dewatering well** casing is removed following use and **the well site will be excavated** as part of the construction project, the remaining borehole shall be filled with natural earth materials obtained during the drilling process to the ground surface and be thoroughly tamped to minimize settling.

- (f) The division shall be notified in writing of a well abandonment within thirty (30) days after plugging is completed.**

(Natural Resources Commission; 312 IAC 13-20-2; filed Nov 22, 1999, 3:34p.m.: 231R 773)