**Section 240.1150 Specific Plugging Procedures**

a) Circulation of Cement

 Cement may be circulated from total depth or plugged back total depth to surface in lieu of the placing of plugs specified in subsection (b), (c) and (d), provided both the workable coal and the freshwater zones have been protected by cement in direct contact with both strata.

b) Producing Interval Plug

1) Cased Wells

A) Circulation Method

When using the circulation method, a cement plug shall be placed opposite each perforated interval, and each interval that is exposed after removal of production casing that has produced oil or gas or into which injection is occurring within ¼ mile radius of the well, and extend 50 feet below the deepest perforated interval, total depth, or plugged back total depth, and extend to 50 feet above the shallowest perforated interval or 50 feet above the open hole interval.

B) Dump Bailer Method

When using the dump bailer method, a cast iron plug shall be set immediately above each perforated interval, and each interval that is exposed after removal of production casing that has produced oil or gas or into which injection is occurring within ¼ mile radius of the well, and a minimum of 10 feet of cement shall be placed on top of each cast iron plug. As an alternative to setting a cast iron plug, a standard cement pump down plug can be placed in the well and a minimum of 50 feet of cement placed on top of each plug. To insure the cement plug has been properly set, the cement plug shall be tagged after a minimum of 2 hours. The use of the cement pump down plug is prohibited if the well is flowing fluid to the surface.

2) Uncased Wells

 Wells shall be filled with mud before commencement of plugging operations and a cement plug shall be placed opposite any exposed interval that has produced oil or gas or into which injection is occurring within ¼ mile radius of the well. The cement plug shall extend from 50 feet below the exposed zone to 50 feet above the zone. The cement plug may be placed using either the circulation or dump bailer method.

3) All wells shall be left open overnight or for a minimum of 12 hours after the surface plug has been set to allow for the verification of the top of the cement. If, after the required waiting period, the top of the cement has fallen more than 4 feet below the ground surface, additional cement shall be placed in the well to bring the top of the cement up to within approximately 4 feet of the ground surface.

c) Coal Plugs–

A plug shall be placed across each workable coal seam in accordance with Section 240.1151.

d) Surface Plug

Surface casing shall not be pulled from any well and a cement plug shall be placed across the freshwater zones using either the circulation or dump bailer method as follows:

1) Wells with Surface Casing

A) If surface casing extends 50 feet below the freshwater zones with cement circulated to the surface, a cement plug shall be placed in direct physical contact with the strata and surface casing from 25 feet below the setting depth of the surface casing and extend to the surface. If production casing is left in the hole and there is no cement behind the production casing, cement shall be placed inside and outside of the production casing from 25 feet below the setting depth of the surface casing and extend to the surface. Cement shall be placed outside of the production casing by perforating the casing 25 feet below the setting depth of the surface casing and squeezing cement behind the production casing to the surface, or by inserting tubing down the backside of the production casing to a depth of 25 feet below the setting depth of the surface casing and circulating cement to the surface.

B) If surface casing does not extend 50 feet below the base of the freshwater zone, a continuous cement plug shall be placed in direct physical contact with strata from a depth of 50 feet below the base of the freshwater zone to the surface. If production casing is left in the hole, and there is no cement behind the production casing, cement shall be placed inside and outside of the production casing from 50 feet below the base of the freshwater zone and extend to the surface. Cement shall be placed outside of the production casing by perforating the casing 50 feet below the base of the freshwater zone and squeezing cement behind the production casing to the surface, or by inserting tubing down the backside of the production casing to a depth of 50 feet below the base of the freshwater zone and circulating cement to the surface.

2) Wells Without a Surface Casing–

A cement plug shall be placed from a depth of 50 feet below the base of the freshwater zones to the surface.

e) Plugging Requirements for Wells with Uncemented Casings.

 When the Department determines that the plugging procedures set forth in this Section cannot be followed due to well construction and the lack of cement behind the casings, the Department will authorize the following alternative plugging procedures:

1) The production casings shall be removed from a point at least 50 feet below the base of the fresh water, the hole filled with mud, and a surface plug set in accordance with subsection (d);

2) If the production casings cannot be removed to a depth at least 50 feet below the base of the fresh water, all casings contained within the outermost casing shall be removed to a depth at least 50 feet below the base of the fresh water, and the outermost casing in direct contact with the borehole wall shall be perforated, ripped or parted at an interval 50 feet below the base of the fresh water to permit cement to infiltrate the annulus between the casing and the borehole wall. The hole shall be filled with mud, the perforated, ripped or parted interval shall be squeezed with cement, and a surface plug must be set in accordance with subsection (d).

3) If the well cannot retain mud because the producing interval takes fluid, the producing interval shall be covered with sand, crushed rock or other similar material to provide an anchor on which to place the column of mud, and the hole shall be filled with mud and a surface plug set in accordance with subsection (e)(1) or (2).

(Source: Amended at 35 Ill. Reg. 13281, effective July 26, 2011)