

## **805 KAR 1:020. Protection of fresh water zones.**

RELATES TO: KRS 349.045, 349.110, 353.520

STATUTORY AUTHORITY: KRS 349.115, 353.540, 353.550, 353.560

NECESSITY, FUNCTION, AND CONFORMITY: KRS 353.540 authorizes the Department for Natural Resources to administer and enforce the provisions of KRS 353.500 to 353.720. KRS 349.115 authorizes the Department for Natural Resources to promulgate administrative regulations to implement the provisions of KRS Chapter 349 governing coal bed methane wells. This administrative regulation establishes the requirements to protect fresh water zones from contamination associated with the production of oil and gas.

### **Section 1. Protection of Fresh Water Zones for Drilling and Plugging Operations.**

(1) During drilling operations, one (1) of the methods established in paragraphs (a) through (c) of this subsection shall be used to protect fresh water zones.

(a) Method A. Casing shall be set on a casing shoulder and the casing shall have a shoe installed on the bottom of the bottom joint. Upon the completion of the drilling program, all the recoverable casing shall be removed or cemented to the surface.

(b) Method B. Casing shall be set on a shoulder and cemented sufficiently to cover at least 100 feet including the shoe. Upon completion of the drilling, all of the recoverable casing shall be removed or cemented to the surface.

(c) Method C. Method C shall be a top to bottom drilling mud system with a filtrate water loss of less than ten (10) cubic centimeters, as established in Recommended Practice for Field Testing Water-based Drilling Fluids API RP 13B-1 Fourth Edition, March, 2009. Certification of filtrate water loss shall be made by the operator.

(2) In the event a well is to be plugged, then it shall be plugged as established in 805 KAR 1:060.

### **Section 2. Protection of Fresh Water Zones. Any well drilled in the Commonwealth of Kentucky subject to the jurisdiction of the Division of Oil and Gas shall be equipped with fresh water protection as established in this section prior to production or injection.**

(1) A protective string of casing, be it surface, intermediate, or long string, shall extend at least thirty (30) feet below the deepest known fresh water zone.

(a) The protective string shall have cement circulated in the annular space outside said casing of a sufficient volume of cement, to assure the return of the cement to the surface.

(b) If the cement does not return to the surface, every reasonable attempt shall be made to fill the annular spaces by introducing cement from the surface.

(c) If the intermediate casing or long casing string is cemented to the surface or cemented thirty (30) feet into the next larger string of cemented casing, the string or combination of strings shall be considered as the fresh water protection.

(2) In areas where abnormal pressures are expected or encountered:

(a) The surface and intermediate casing string shall be anchored in sufficient cement and at a sufficient depth to contain the pressures; and

(b) Blowout prevention valves and related equipment shall be installed.

(3) If a well is drilled through a void:

(a)

1. The hole shall be drilled at least thirty (30) feet below the void; and

2. The annular space shall be cemented from the base of the casing up to the void and to the surface from the top of the void, or it shall be cemented at least fifty (50) feet into the next higher string or strings of casing that are cemented to the surface and be verified by a cement top log.

(b) If an operator is unable to perform the casing and cementing requirement established in paragraph (a) of this subsection, the department may approve alternative

casing procedures proposed by the operator.

Section 3. Material Incorporated by Reference.

(1) "Recommended Practice for Field Testing Water-based Drilling Fluids" API RP 13B-1 Fourth Edition, March, 2009, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Department for Natural Resources, Division of Oil and Gas, 300 Sower Boulevard, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m., Eastern Prevailing Time.

(4 Ky.R. 632; 5 Ky.R. 112; eff. 8-2-1978; 18 Ky.R. 187; 1020; eff. 9-25-1991; TAm eff. 8-9-2007; Crt eff. 6-27-2018; 46 Ky.R. 660, 1489, 2050; eff. 2-3-2020.)