Ohio Administrative Code

Rule 1501:9-7-08 Construction of solution mining projects.

Effective: April 15, 2004

(A) The following construction, testing, and monitoring requirements shall apply to any well permitted and drilled after the effective date:

(1) Surface casing shall be free of apparent defects, set at least fifty feet below the deepest underground source of drinking water, and sealed by circulating cement to the surface under the supervision of the division. In the event cement fails to circulate to the surface, the division may approve a remedial course of action.

(2) Intermediate casing or casings, if required, shall be set and sealed as approved by the chief. Centralizers may be required.

(3) The production or long string of casing shall be set and cemented as approved by the chief. Centralizers may be required.

(4) Tubing may be required for use in injection and withdrawal operations. The operator shall furnish to the chief evidence that the casing will not be exposed to undue corrosion. Installation of a packer on the tubing may be required.

(5) Hole diameters, casing weights and diameters, and cementing procedures shall be subject to approval by the chief.

(6) To verify the quantity of cement used and quality of the cement bond, a cement bond log and/or other logs required by the chief, shall be run in addition to the cementing records.

(7) Each solution mining project owner or his agent shall give the appropriate division inspector reasonable notice in advance of cementing, placing and removing of casing, installation of tubing and packer, and initial operation. A division office shall be notified when the appropriate inspector cannot be contacted. Said work shall be done pursuant to the instructions of a representative of the

division in accordance with Chapter 1509. of the Revised Code and Chapter 1501:9-7 of the Administrative Code.

(8) Appropriate logs and other tests shall be conducted for new solution mining wells. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the chief. The logs and tests appropriate to each type of solution mining well shall be determined based on the intended function, depth, construction, and other characteristics of the well; availability of similar data in the area of the drilling site; and the need for additional information that may arise as the construction of the well progresses.

(9) For new solution mining projects, the following information concerning the injection zone shall be determined or calculated when the injection zone is a water bearing formation:

(a) Fluid pressure;

(b) Fracture pressure; and

(c) Physical and chemical characteristics of the formation fluids.

(10) When the injection formation is not a water bearing formation, the information in paragraph (A)(9)(b) of this rule must be submitted.

(11) When the injection wells penetrate an underground source of drinking water in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the underground source of drinking water to detect any movement of injected fluids, process by-products, or formation fluids into the underground source of drinking water. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(12) In determining the number, location, construction, and frequency of monitoring of the monitoring wells, the following criteria shall be considered:

(a) Population relying on the underground source of drinking water affected or potentially affected by the injection operations;

(b) Proximity of the injection operation to points of withdrawal of drinking water;

(c) Local geology and hydrology;

(d) Operating pressures and whether a negative pressure gradient is being maintained;

(e) Nature and volume of the injected fluid, the formation water, and the process by-products; and

(f) Injection well density.

(B) The following requirements shall apply to solution mining wells permitted or drilled prior to the effective date of these rules:

(1) Casing shall be set below the deepest underground source of drinking water and cemented so as to protect the deepest underground source of drinking water.

(2) The production or longstring of casing shall be set and cemented as approved by the chief so as to prevent upward migration of fluids.

(3) To verify the quantity of cement used and quality of the cement bond, a cement bond log and/or other logs required by the chief, shall be run in addition to the cementing records.

(4) Each solution mining project owner or his agent shall give the appropriate division inspector reasonable notice in advance of cementing, placing and removing of casing, installation of tubing and packer, and initial operation. A division office shall be notified when the appropriate inspector cannot be contacted. Said work shall be done pursuant to the instructions of a representative of the division in accordance with Chapter 1509. of the Revised Code and Chapter 1501:9-7 of the Administrative Code.

(5) The chief may require other logs or tests to be conducted in order to verify construction of a solution mining well.

(6) When the injection wells penetrate an underground source of drinking water in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the underground source of drinking water to detect any movement of injected fluids, process by-products, or formation fluids into the underground source of drinking water. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(7) In determining the number, location, construction, and frequency of monitoring of the monitoring wells, the following criteria shall be considered:

(a) Population relying on the underground source of drinking water affected or potentially affected by the injection operations;

(b) Proximity of the injection operation to points of withdrawal of drinking water;

(c) Local geology and hydrology;

(d) Operating pressures and whether a negative pressure gradient is being maintained;

(e) Nature and volume of the injected fluid, the formation water, and the process by-products; and

(f) Injection well density.