



ADMINISTRATIVE RULES OF MONTANA

36.22.1416 MECHANICAL INTEGRITY

- (1) From and after the effective date of these regulations, all new wells drilled for, and all existing wells converted to, water injection or disposal must demonstrate mechanical integrity before being placed into service. A mechanical integrity test must be designed to determine whether there is a significant leak in the tubing, casing, or packer of the well, and whether there is a significant movement of injected fluid into any USDWs or between any USDWs through vertical channels adjacent to the wellbore. The owner or operator of an injection well regulated under this chapter must maintain the mechanical integrity of such well until the well is plugged.
- (2) A mechanical integrity test that demonstrates that there are no significant leaks in the tubing, casing, or packer will include:
 - (a) a pressure test of the tubing-casing annulus using liquid or gas; or
 - (b) monitoring of the casing-tubing annulus following a valid initial pressure test; or
 - (c) a radioactive tracer survey, timed run method; or
 - (d) any other test or combination of tests considered effective by the board, and approved by the director, Office of Drinking Water, U.S. EPA.
- (3) A mechanical integrity test also will include a demonstration that there is no significant movement of injected fluid in vertical channels adjacent to the wellbore. Such demonstration must include a cement bond log (with a variable density curve, travel time curve, amplitude curve, and a gamma ray curve) or equivalent, and may include the following:
 - (a) cementing records which demonstrate volume and type of cement used, and which demonstrate absence of unauthorized fluid migration adjacent to the wellbore;
 - (b) radioactive tracer surveys;
 - (c) noise logs;
 - (d) temperature surveys;
 - (e) oxygen activation logs; or
 - (f) any other test or combination of tests considered effective by the board and approved by EPA.
- (4) After the effective date of these regulations, all existing injection wells which have not had an initial mechanical integrity test must be tested for mechanical integrity as directed by the board.

- (5) Injection wells must be retested for mechanical integrity no less than once each five years from the date last tested. Wells last tested under supervision of EPA will be retested under supervision of the board no less than five years from the EPA test date.
- (6) A pressure test of the casing-tubing annulus as provided in (2)(a) must be performed at a minimum surface pressure of 300 pounds per square inch (psi) or 100 psi above the actual injection pressure at the time tested, whichever is greater; provided, however, that the maximum test pressure will not be required to exceed 800 psi surface pressure. The test will be considered successful if the applied pressure can be held for 15 minutes with no more than five percent pressure loss.
- (7) Wells which fail the mechanical integrity test must be immediately shut-in until either repaired, reworked, or plugged for abandonment in accordance with ARM 36.22.1414. Such wells must be successfully retested for mechanical integrity before being placed in injection service.
- (8) Subsequent to any mechanical integrity test, a well operation which causes the injection packer to be unseated or in which the tubing or packer was pulled, repaired, or replaced or that has experienced a loss of mechanical integrity will require that the well be retested for mechanical integrity before being placed in service.

Authorizing statute(s): 82-11-111, MCA

Implementing statute(s): 82-11-111, 82-11-121, 82-11-123, 82-11-123, 82-11-124, 82-11-127, 82-11-137, MCA

History: NEW, 1992 MAR p. 2171 and 1996 MAR p. 1308, Eff. 5/10/96; AMD, 1996 MAR p. 1308, Eff. 5/10/96.