

# **\*\*\*RESCIND- NOT FOR FILING\*\*\***

## **~~3745-34-55 — Logging, sampling, and testing prior to new well operation.~~**

~~(A) During the drilling and construction of a new Class I hazardous waste injection well, appropriate logs and tests shall be run to determine or verify the depth, thickness, porosity, permeability, and rock type of, and the salinity of any entrained fluids in, all relevant geologic units to assure conformance with performance standards of rule 3745-34-54 of the Administrative Code and to establish accurate baseline data against which future measurements may be compared. A descriptive report interpreting results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the director. Such logs and tests shall include:~~

- ~~(1) Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks shall be at sufficiently frequent intervals to determine the location of the bore hole and to assure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and~~
- ~~(2) Such other logs and tests as may be required by the director after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, the following logs shall be required in the following situations:
  - ~~(a) Upon installation of the surface casing:
    - ~~(i) Resistivity, spontaneous potential, and caliper logs before the casing is installed; and~~
    - ~~(ii) A cement bond and variable density log, and a temperature log after the casing is set and cemented.~~~~
  - ~~(b) Upon installation of the long string casing:
    - ~~(i) Resistivity, spontaneous potential, porosity, caliper, gamma ray, and fracture finder logs before the casing is installed; and~~
    - ~~(ii) A cement bond and variable density log, and a temperature log after the casing is set and cemented.~~~~
  - ~~(c) The director may allow the use of an alternative to the above logs when an alternative will provide equivalent or better information; and~~~~
- ~~(3) A mechanical integrity test consisting of:
  - ~~(a) A pressure test with liquid or gas; and~~
  - ~~(b) A radioactive tracer survey; and~~
  - ~~(c) A temperature or noise log; and~~
  - ~~(d) A casing inspection log, if required by the director; and~~
  - ~~(e) Any other test required by the director.~~~~

~~(B) Whole cores or sidewall cores of the confining and injection zones and formation fluid samples from the injection zone shall be taken. The director may accept cores from nearby wells if the owner or operator can-~~

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~~demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The director may require the owner or operator to core other formations in the bore hole.~~

- ~~(C) The fluid temperature, pH, conductivity, pressure and the static fluid level of the injection zone must be recorded.~~
- ~~(D) At a minimum, the owner or operator of a Class I hazardous waste injection well shall submit for review by the director determinations or calculations of the following for the injection and confining zones:~~
- ~~(1) Fracture pressure; and~~
  - ~~(2) Other physical and chemical characteristics of the injection and confining zones; and~~
  - ~~(3) Physical and chemical characteristics of the formation fluids in the injection zone.~~
- ~~(E) Upon completion, but prior to operation, the owner or operator shall conduct the following tests to verify hydrogeologic characteristics of the injection zone:~~
- ~~(1) A pump test; or~~
  - ~~(2) Injectivity tests.~~
- ~~(F) The director reserves the right to witness all logging and testing required by this rule. The owner or operator shall submit a schedule of such activities to the director thirty days prior to conducting the initial test.~~