

**REQUIREMENTS FOR ANNULAR DISPOSAL, CONSTRUCTION,
OPERATING AND REPORTING CONDITIONS**

Construction requirements

1. Disposal of brine into any annular space of any well shall be prohibited except where approved in writing by the Chief and performed in accordance with this rule.
2. Each owner or his agent shall give the appropriate Division inspector at least six hours notice in advance of the time of cementing of surface casing and hook-up for annular disposal are to be performed. A division office shall be notified when the appropriate inspector cannot be contacted. If at least six hours notice is not given, annular disposal will not be authorized on the well.
3. Approval for annular disposal shall be granted by the Chief if the construction requirements have been satisfied and the mechanical integrity of the well has been demonstrated.
4. The surface casing of any annular disposal well permitted after June 19, 1989 shall be set and sealed with cement.
5. Surface casing shall be set at least fifty feet below the base of the deepest underground source of water containing less than ten thousand mg/L total dissolved solids.
6. Surface casing shall be free of all apparent defects including but not limited to bent joints, split-seams, stripped threads, and holes.
7. No cement baskets shall be used above the deepest underground source of drinking water unless a cement bond log is run to verify a continuous seal from the casing seat to the surface.
8. No well shall be approved for annular disposal unless a Division representative is present while casing is installed and cemented or unless an affidavit is submitted by the operator attesting to conditions subject to the requirements listed under issue number two.
9. Cement shall be mixed with fresh water and circulated to surface by the pump and plug method. The density of cement circulated prior to the dropping the top plug shall range within five percent, plus or minus, of the "American Petroleum Institute" optimum density standard for the type of cement used. The record of all cement and mix water additives and percentages by weight of mix water shall be included on the cement ticket. A copy of the cement ticket shall be supplied to the appropriate Division inspector. The cement head shall not be removed until the cement reaches a compressive strength of five hundred pounds per square inch (psi). Cement shall provide a continuous seal from the casing seat to the surface.
10. Any annular disposal well being used for disposal of brine produced on an adjacent lease shall have surface casing sealed by circulating cement to the surface. All brines shall be transported in a liquid tight piped system. The connection between the brine pipeline and the annulus of the annular disposal well shall be visible and accessible for inspection by the Division. All annular systems shall be liquid tight.

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11. Prior to obtaining approval from the Chief for the use of annular disposal and prior to commencement of injection of brine, each owner or his agent shall demonstrate that the well has mechanical integrity in the following manner:
- (a) Cement records shall be accepted as demonstration that there is no significant fluid movement into an underground source of drinking water through channels adjacent to the injection wellbore if all construction requirements have been satisfied.
 - (b) Demonstrate mechanical integrity using one of the following tests:
 - (1) After the well has been drilled to the depth attained prior to running production casing, a temporary plug consisting of either a packer run on tubing, or an electric bridge plug run on a wire-line, shall be set at the base of the surface casing. The surface casing shall be filled with fresh water, pressurized to three hundred psi and shut-in. If the pressure of three hundred psi is maintained for fifteen minutes with no more than a five percent decline, the demonstration that there is no significant leak in the casing is satisfied.
 - (2) The positive differential gas pressure test may be performed as a demonstration of mechanical integrity.
 - (c) Each owner or his agent shall give the appropriate Division inspector at least 24 hours notice in advance of conducting an initial mechanical integrity test. A Division representative must be present to witness this test.
 - (d) The owner or his agent shall demonstrate mechanical integrity for all annular disposal wells at least once every five years by use of a method approved by the Chief. By written notice, the Chief may require the owner or his agent to comply with a schedule describing when such demonstrations shall be made.

Operating and monitoring requirements

1. Any annular disposal well with surface casing sealed by circulating cement to the surface may be used to dispose of a maximum average volume of ten barrels of brine a day per year.
2. A flow meter or other quantitative monitoring method shall be required if annular disposal is used.
3. No pressure, except that created by the force of gravity, shall be applied to brine disposed of into an annular space unless otherwise approved by the Chief.
4. The following information shall be posted in a conspicuous place on or near the storage tank (s) of any annular disposal operation; owner's name, lease name, well number, permit number, county, township, and emergency telephone number. In addition, the permit number shall be displayed in a conspicuous place on or near the wellhead of any annular disposal well.
5. The entire injection system must be liquid tight from the storage container to the wellhead. A bradenhead may be used, or the casing at the surface orange-peeled and welded shut with a

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connection into the annulus. If venting is necessary, the well must be vented back to the brine storage container or a valve must be used that prevents the escape of liquids from the system.

6. Disposal of brine transported to the annular disposal well by any means other than pipeline, either on lease or across lease lines, shall be prohibited.
7. Under no circumstances shall liquids or waste matter from any source, other than brine or other waste substances resulting, obtained, or produced in connection with oil or gas drilling, exploration, or production on the same lease or, where authorized, on adjacent leases, be injected into any annular disposal well.
8. The owner shall notify the Chief in writing within fifteen days upon abandonment of annular disposal operations. When an annular disposal well becomes incapable of producing oil or gas, all annular disposal operations shall cease and the well shall be plugged and abandoned in accordance with Chapter 1509 of the Ohio Revised Code and any rules adopted thereunder.
9. The owner shall keep an accurate record of the volume of fluid injected and a copy of such record (Form 205) shall be furnished to the Chief upon request. Such owner shall file an annual report with the Chief, on or before the fifteenth of April, setting forth the total volume of fluid injected during the preceding calendar year.
10. A well completion record (Form 8) in accordance with Section 1509.10 of the Ohio Revised Code and Chapter 1501.9-3 of the Ohio Administrative Code shall be filed with the Division within thirty days after completion of any annular disposal well before final authorization is granted.

Failure to maintain compliance with the above requirements may be grounds for immediate revocation of the authorization to utilize annular disposal. Any questions concerning these conditions should be directed to the Underground Injection Control (UIC) Section at (614) 265-1032.

Chief, Division of Oil and Gas Resources Management