

The Texas Natural Resource Conservation Commission (commission) proposes amendments to §§331.9, 331.11, 331.131, 331.132, and 331.133, Underground Injection Control.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

Chapter 331, relating to Underground Injection Control, regulates all injection wells and activities related to injection wells regulated by the commission under Texas Water Code, Chapter 27. The proposed amendments to Subchapter A, General Provisions, will clarify authorization by rule requirements related to Class V injection wells. The proposed amendments to Subchapter H, Standards for Class V Wells, will update construction and closure standards to those standards and practices currently accepted as being more protective of groundwater. The proposed changes to Chapter 331 will also ensure consistency with drilling standards associated with similar well types adopted by the Texas Department of Licensing and Regulation (TDLR), which regulates the conduct of licensed well drillers.

SECTION BY SECTION DESCRIPTION

The proposed amendment to §331.9(a) adds a reference to closure standards for Class V injection wells authorized under this rule. The current language in §331.9(a) refers to closure standards in §331.46 which are appropriate for Class I injection wells. The proposed amendment to §331.9(a) will state that the appropriate closure standards for Class V injection wells are located in §331.133.

The proposed amendment to §331.9(b)(2)(E) prohibits injection into Class V wells unless the construction standards in Subchapter H, and in the case of aquifer storage wells, both Subchapters H and K, are met.

Proposed new §331.11(a)(4)(B) will clarify that closed loop injection wells are contained within the Class V category. Under §331.11(a)(4), Class V wells are any injection well that is not a Class I, III, or IV, under the jurisdiction of the commission. This section provides several examples of Class V wells, but it does not specifically list closed loop injection wells (a vertical closed water circulating loop capable of absorbing or rejecting heat as part of heat pump system), even though this type of well is also a Class V well (as provided under 40 Code of Federal Regulations §144.3 and §144.6). Amending §331.11(a)(4) to include closed loop injection wells will provide additional protection of groundwater resources because the commission can ensure that this type of well is constructed and closed in accordance with the standards in Subchapter H.

The commission is also proposing amendments to Subchapter H, §§331.131 - 331.133, relating to Standards for Class V Wells. The proposed amendment to §331.131, Applicability, replaces the agency name “Texas Water Commission” with “commission.” The proposed amendment also adds language that references Subchapter K, Additional Requirements for Class V Aquifer Storage Wells, to the applicable sections in Subchapter H. It also clarifies that aquifer storage wells must also comply with Subchapter K.

Several amendments to §331.132, relating to Construction Standards, are being proposed to provide clarification for the regulated community and update the standards to currently accepted well construction that are consistent with existing well drilling standards for water well drillers. With the transfer of the licensing and regulation of water well drillers and pump installers from the commission to the TDLR in 1997, some of the construction standards for Class V injection wells that were contained within the commission rules regulating drillers were inadvertently repealed by the

commission when the rules governing the licensing of drillers were repealed as part of the transfer of the program. The construction standards proposed in §331.132 clarify that these construction standards for the design and closure of Class V injection wells are part of the commission's underground injection control program and not just a requirement for drillers.

The proposed amendment to §331.132(a) provides authorization to the executive director to approve alternative standards to those contained in §331.132. Proposed changes to §331.132(a) also require all Class V wells to be installed by a driller licensed by the TDLR. As a result of this proposed amendment, all Class V wells are to be installed by a licensed professional. The use of a licensed water well driller, who is trained and experienced in current well construction practices, will help ensure the proper construction of these wells and should ensure that the necessary level of groundwater protection is maintained once the well is put into operation.

The proposed amendments to §331.132(b) provide clarification for the regulated community on the reporting requirements related to the construction and operation of a Class V injection well. Except for closed loop injection and air conditioning return flow wells, new §331.132(b)(1)(A) provides that prior to construction of the well, the owner/operator must submit all information required under §331.10(a) to the executive director. Except for closed loop injection wells and air conditioning return flow wells, proposed §331.132(b)(1)(B) provides that after completion of construction, a report to the executive director must be submitted on the state well report form which is provided by the TDLR. This subparagraph has also been modified to provide for submission of this form within 30 days from the date the well construction is completed.

A proposed new §331.132(b)(2) addresses reporting requirements for closed loop injection wells and air conditioning return flow wells. The paragraph requires no reporting prior to construction and requires the submittal of the state well report form to the executive director within 30 days from the date the well construction is complete. Information on any additives, constituents, or fluids other than potable water that are used in the closed loop system must be reported in the water quality section on the state well report form.

A proposed new §331.132(c)(2) is added to address the general sealing of the annular space and casing for injection wells and the filling of the top of the well bore for closed loop injection wells. Proposed amendments to §331.132(d) provide standards for surface completion for all types of wells except for below grade closed loop inject wells, which are required to follow the provisions in §331.132(c)(2).

Proposed amendments to §331.132(d)(2) provide standards for completion at the top of the casing. The provisions related to flood elevation have been moved to new §331.132(g) and the provisions related to capping or completion to prevent pollutants from entering the well, formerly in §331.132(g), have been moved to §331.132(d)(2). Provisions under §331.132(e) have been moved to §331.132(d). Provisions related to the use of a pitless adaptor, which is a sanitary underground discharge assembly providing a watertight subsurface connection for buried pump discharge or suction lines, are proposed for deletion because this technology is not applicable to Class V injection wells.

A proposed new §331.132(e) clarifies the construction standards for wells utilizing a steel sleeve or PVC sleeve. The proposed new §331.132(f) clarifies and consolidates all the standards for the placement of Class V injection wells in flood-prone areas and specifies that a Class V injection well should not be located in areas subject to flooding. If a well must be placed in a flood-prone area, the

proposed subsection provides for appropriate and more stringent construction standards. For the purpose of this subsection, a flood-prone area is defined as that area within the 100-year flood plain as determined on the Federal Emergency Management Agency (FEMA) Flood Hazard Maps for the National Flood Insurance Program. If FEMA has conducted a flood insurance study of the area, and has mapped the 50-year flood plain, then the smaller geographic areas within the 50-year boundary are considered to be flood prone.

A proposed new §331.132(g) clarifies and consolidates other protective measures that must be taken when a well is installed. These measures prohibit the commingling of water from different zones of water quality, which causes degradation of any aquifer containing fresh water and requires zones containing undesirable groundwater be sealed off and confined to the zone of origin. The proposed amendments to §331.132(g)(2) clarify that undesirable groundwater is water that is injurious to human health and the environment or water that can cause pollution to land or other waters and the well should be constructed so that the undesirable groundwater is isolated from any underground source of drinking water and confined to the zone of origin.

The proposed amendments to §331.133(a) clarify that it is the responsibility of the owner/operator of a Class V injection well to properly plug the well when its use is permanently discontinued or the well is abandoned. The proposed amendment to §331.133(b) provides for the method that will be used to pressure fill the well with cement. The proposed amendments to §331.133(c) clarify that an alternative method to subsection (b) for well closure can be used as long as the well is not completed through a zone or zones containing undesirable groundwater. Proposed amendments to §331.133(d) clarify that an alternative method to subsection (b) for well closure can be used for plugging Class V injection wells

that have encountered undesirable groundwater. A proposed modification in subsection (d) changes the recommended bentonite grout weight from 9.5 pounds per gallon to 9.1 pounds per gallon. This change in grout weight reflects a change in well plugging technology and common practice which is equally effective in preventing groundwater contamination.

FISCAL NOTE

Bob Orozco, Technical Specialist with Strategic Planning and Appropriations, has determined that for the first five-year period the proposed amendments are in effect, there will be no significant adverse fiscal implications for the commission and other units of state or local government as a result of administration or enforcement of the proposed amendments.

The purpose of the proposed amendments to Chapter 331, Underground Injection Control, is to clarify existing rules and definitions, update references, clarify and update Class V injection well standards to currently accepted well construction and closure standards, and to provide conformity with standards for drillers installing similar well types adopted by the TDLR. A Class V injection well is, generally, a well for injecting nonhazardous fluids into or above formations that contain underground sources of drinking water. The proposed amendments also clarify that it is the responsibility of the owner/operator of a Class V injection well to properly plug a well when its use is permanently discontinued or the well is abandoned. The proposed amendments will add closed loop injection wells to the list of injection wells included in the definition of a Class V well and provide construction standards for these wells that are consistent with standards promulgated by TDLR. The proposed amendments also provide authorization to the executive director to approve alternative standards to

those contained in the rules and requires all Class V wells to be installed by a driller licensed by the TDLR. The proposed amendments will also clarify that TDLR provides the state well report form formerly provided by the commission and the deadline by which the form must be filed with the commission.

PUBLIC BENEFIT

Mr. Orozco has also determined that for each year of the first five years the proposed amendments to Chapter 331 are in effect, the public benefit anticipated from enforcement of and compliance with the proposed amendments will be clarification and updating of standards and requirements that provide necessary, reasonable, and adequate protection of groundwater and are consistent with standards promulgated by TDLR for drillers installing similar type wells.

There are no significant adverse economic impacts anticipated to any person or business required to comply with the sections as proposed. The proposed amendments to Chapter 331 clarify existing rules and definitions, clarify and update Class V injection well standards, conform to currently accepted well construction and closure standards, and are consistent with current standards for drillers installing similar well types adopted by the TDLR.

SMALL BUSINESS AND MICRO-BUSINESS ANALYSES

No significant adverse economic effects are anticipated to any person, small business, or micro-business as a result of implementing the provisions of the proposed amendments to Chapter 331 of the rules.

The intent of the proposed amendments to Chapter 331 is to clarify existing rules and definitions,

clarify and update Class V injection well standards to currently accepted well construction and closure standards, and provide consistency with standards for drillers installing similar well types adopted by the TDLR. Since the proposed standards are consistent with those required by TDLR for licensed water well drillers, adoption of the proposed amendments should have no significant fiscal impact.

DRAFT REGULATORY IMPACT ANALYSIS

The commission has reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking is not subject to §2001.0225 because it does not meet the definition of a “major environmental rule” as defined in that statute. “Major environmental rule” means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The proposed rule is intended to protect the environment and reduce risks to human health from environmental exposure. Although certain standards have been revised, the proposed amendments reflect what is considered to be current well drilling practice and is not anticipated to have an adverse effect on the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. In addition, §2001.0225 applies only to a major environmental rule the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4)

adopt a rule solely under the general powers of the agency instead of under a specific state law. The proposed amendments do not exceed a standard set by federal law, exceed an express requirement of state law, nor exceed a requirement of a delegation agreement. The proposed amendments were not developed solely under the general powers of the agency, but are proposed under authority of Chapter 27 of the Texas Water Code, which authorizes the commission to regulate injection wells. The state standards do not exceed the standard set by federal law because federal regulations, required under Title 42 Public Health and Welfare, §330h(b)(1), contain the minimum requirements and restrictions on a state injection well program and include requirements that prohibit injection which is not authorized by permit or rule and require that no state program which provides for authorization of underground injection by rule may promulgate rules which endanger drinking water sources.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code, §2007.043. Promulgation and enforcement of these rules will not affect private real property because the rulemaking clarifies the definition of a Class V well to include a closed loop injection well. The rulemaking also proposes clearer guidance for the construction and closure standards for Class V wells under the jurisdiction of the commission.

Private property is not affected or burdened by these rules because the rules do not restrict or limit an owner's right to property that would otherwise exist in the absence of the proposed changes. In other words, a property owner may still use his property in any manner he wishes, in accordance with applicable state law and rules of the commission.

COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

This rulemaking is not subject to the Texas Coastal Management Plan (CMP). The rulemaking proposes clearer guidance for the construction and closure of Class V wells under the jurisdiction of the commission. The executive director has reviewed the rulemaking and found that the proposed rules and rule changes do not govern specific actions identified in the CMP as being subject to consistency with the CMP, including air pollution emissions, on-site sewage disposal systems, or underground storage tanks expressly identified under Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2), relating to Actions and Rules Subject to the CMP. Neither do the proposed rules or rule changes qualify as an individual agency action subject to 31 TAC §505.11(a).

PUBLIC HEARING

A public hearing on this proposal will be held in Austin on February 23, 2000 at 10:00 a.m. in Building F, Room 2210 at the Texas Natural Resource Conservation Commission complex, located at 12100 Park 35 Circle. Individuals may present oral or written statements when called upon in order of registration. Open discussion will not occur during the hearing; however, an agency staff member will be available to discuss the proposal 30 minutes before the hearing and will answer questions before and after the hearing.

Persons with disabilities who have special communication or other accommodation needs, who are planning to attend the hearing, should contact the Office of Environmental Policy, Analysis, and Assessment at (512) 239-4900. Requests should be made as far in advance as possible.

SUBMITTAL OF COMMENTS

Comments may be submitted to Lisa Martin, Office of Environmental Policy, Analysis, and Assessment, MC 205, P.O. Box 13087, Austin, Texas 78711-3087 or faxed to (512) 239-4808. All comments should reference Rule Log Number 99009-331-WT. Comments must be received by 5:00 p.m., February 28, 2000. For further information, please contact Mary Ambrose, Regulatory Development Section, (512) 239-4813.

STATUTORY AUTHORITY

The amendments are proposed under Texas Water Code, Chapter 27. Section 27.003 provides that it is the policy of the state and the purpose of Chapter 27 to maintain the quality of fresh water in the state to the extent consistent with the public health and welfare, the operation of existing industries, and the economic development of the state, to prevent underground injection that may pollute fresh water, and to require the use of all reasonable methods to implement this policy. Section 27.019 requires the commission to adopt rules and procedures reasonably required for the performance of its powers and duties under Chapter 27.

Texas Water Code, §5.103 and §5.105, authorize the commission to adopt rules necessary to carry out its responsibilities and duties under the Texas Water Code and other laws of Texas.

No other codes or statutes will be affected by this proposal.

SUBCHAPTER A. GENERAL PROVISIONS

§331.9, §331.11

§331.9. Injection Authorized by Rule.

(a) Plugging and abandonment of a well authorized by rule at any time after January 1, 1982, shall be accomplished in accordance with the standards of §331.46 of this title (relating to Closure Standards). Class V wells shall be closed according to standards under §331.133 of this title (relating to Closure Standards).

(b) Injection into Class V wells [Wells], unless otherwise provided, is authorized by virtue of this rule. Injection [; injection] into new Class V wells used for the disposal of over 1,000 gallons per day of sewage or sewage effluent must be authorized by [apply for and obtain] a permit from the commission before operations begin.

(1) Well authorization under this section expires upon the effective date of a permit issued under §331.7 of this title (relating to Permit Required).

(2) An owner or operator of a Class V well is prohibited from injecting into the well:

(A) - (B) (No change.)

(C) upon failure to submit inventory information in a timely manner under §331.10 of this title (relating to Inventory of Wells Authorized by Rule); [or]

(D) upon failure to comply with a request for information from the executive director in a timely manner; or [.]

(E) upon failure to comply with provisions contained in Subchapter H of this chapter (relating to Standards for Class V Wells) and, if applicable, Subchapter K of this chapter (relating to Additional Requirements for Class V Aquifer Storage Wells).

(c) - (d) (No change.)

§331.11. Classification of Injection Wells.

(a) Injection wells within the jurisdiction of the commission are classified as follows: [:]

(1) Class I: [.]

(A) wells used by generators of hazardous wastes or owners or operators of hazardous waste management facilities to inject hazardous waste, other than Class IV wells; [.]

(B) (No change.)

(2) - (3) (No change.)

(4) Class V. Generally, wells covered by this paragraph inject nonhazardous [non-hazardous] fluids into or above formations that contain USDWs. Class V wells are injection [Injection] wells within the jurisdiction of the commission, but are not included in Classes I, III, or IV. Class V wells include, but are not limited to:

(A) air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump;

(B) closed loop injection wells which are closed system geothermal wells used to circulate fluids including water, water with additives, or other fluids or gases through the earth as a heat source or heat sink;

(C) [(B)] cesspools or other devices that receive wastes, which have an open bottom and sometimes have perforated sides;

(D) [(C)] cooling water return flow wells used to inject water previously used for cooling;

(E) [(D)] drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation;

(F) [(E)] dry wells used for the injection of wastes into a subsurface formation;

(G) [(F)] recharge wells used to replenish the water in an aquifer;

(H) [(G)] salt water intrusion barrier wells used to inject water into a freshwater aquifer to prevent the intrusion of salt water into the fresh water;

(I) [(H)] sand backfill wells used to inject a mixture of water and sand, mill tailings, or other solids into mined out portions of subsurface mines;

(J) [(I)] septic system wells used:

(i) to inject the waste or effluent from a multiple dwelling, business establishment, community₂ or regional business establishment septic tank; or

(ii) for a multiple dwelling, community₂ or regional cesspool; [.]

(K) [(J)] subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water; and

(L) [(K)] aquifer storage wells used for the injection of water for storage and subsequent retrieval for beneficial use.

(b) (No change.)

SUBCHAPTER H : STANDARDS FOR CLASS V WELLS

§§331.131-331.133

STATUTORY AUTHORITY

The amendments are proposed under Texas Water Code, Chapter 27. Section 27.003 provides that it is the policy of the state and the purpose of Chapter 27 to maintain the quality of fresh water in the state to the extent consistent with the public health and welfare, the operation of existing industries, and the economic development of the state, to prevent underground injection that may pollute fresh water, and to require the use of all reasonable methods to implement this policy. Section 27.019 requires the commission to adopt rules and procedures reasonably required for the performance of its powers and duties under Chapter 27.

Texas Water Code, §5.103 and §5.105, authorize the commission to adopt rules necessary to carry out its responsibilities and duties under the Texas Water Code and other laws of Texas.

No other codes or statutes will be affected by this proposal.

§331.131. Applicability.

The sections of this subchapter apply to all new Class V injection wells under the jurisdiction of the commission [Texas Water Commission]. Aquifer storage wells must also comply with Subchapter

K of this chapter (relating to Additional Requirements for Class V Aquifer Storage Wells) in addition to this subchapter.

§331.132. Construction Standards.

(a) All Class V wells shall be completed in accordance with the [following] specifications contained in this section, unless otherwise authorized by the executive director, and shall be installed by a water well driller licensed by the Texas Department of Licensing and Regulation [commission].

(b) Reporting.

(1) General.

(A) Prior to construction. Except for closed loop injection and air conditioning return flow wells, information required under §331.10(a) of this title (relating to Inventory of Wells Authorized by Rule) shall be submitted to the executive director prior to construction.

(B) After completion of construction. Except for closed loop injection and air conditioning return flow wells, the state well report form, provided by the Texas Department of Licensing and Regulation under Title 16 §76.700, shall be completed and submitted to the executive director within 30 days from the date the well construction is completed.

(2) Closed loop and air conditioning return flow wells. No reporting prior to construction is necessary for these two types of wells. A state well report form provided by the Texas Department of Licensing and Regulation under 16 TAC §76.700 (relating to Responsibilities of the Licensee - State Well Reports) shall be completed and submitted to the executive director within 30 days from the date the well construction is completed. Any additives, constituents, or fluids (other than potable water) that are used in the closed loop injection well system shall be reported in the Water Quality Section on the state well report form.

[(b) For all Class V wells, a form provided by the executive director or the form of the Water Well Drillers Board shall be completed and submitted to the executive director.]

(c) Sealing of casing.

(1) General. Except for closed loop injection wells, the [The] annular space between the borehole and the casing shall be filled from ground level to a depth of not less than ten [10] feet below the land surface or well head with cement slurry. In areas of shallow, unconfined groundwater aquifers, the cement need not be placed below the static water level. In areas of shallow, confined groundwater aquifers having artesian head, the cement need not be placed below the top of the water-bearing strata.

(2) Closed loop injection well. The annular space of a closed loop injection well shall be backfilled to the total depth with impervious bentonite or a similar material. Where no groundwater or only one zone of groundwater is encountered, sand, gravel, or drill cuttings may be used to backfill up to 30 feet from the surface. The top 30 feet shall be filled with impervious bentonite. Alternative impervious materials may be authorized by the executive director upon request.

(d) Surface completion.

[(d) In all wells where plastic casing is used, a concrete slab or sealing block shall be placed above the cement slurry around the well at the ground surface.]

(1) All wells must have a concrete slab or sealing block placed above the cement slurry around the well at the ground surface.

(A) [(1)] The slab or block shall extend at least two feet from the well in all directions and have a minimum thickness of four inches and shall be separated from the well casing by a plastic or mastic coating or sleeve to prevent bonding of the slab to the casing.

(B) [(2)] The surface of the slab shall be sloped so that liquid will [to] drain away from the well.

(C) Closed loop injection wells which are completed below grade are exempt from the surface completion standards in this paragraph; however, the provisions in subsection (c)(2) of this section must be followed.

(2) [(3)] The top of casing shall extend a minimum of 12 inches [one foot] above the original ground surface [or known flood elevation]. The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.

(e) Use of a steel or PVC sleeve. The steel sleeve shall be a minimum of 3/16 inches in thickness and/or the PVC sleeve shall be a minimum of Schedule 80 sun-resistant and 24 inches in length, and shall extend 12 inches into the cement slurry.

[(e) In wells where steel casing is used, a slab or block as described in subsection (d)(1) of this section will be required above the cement slurry, except when a pitless adapter is used.]

[(1) Pitless adapters may be used in such wells provided that:]

[(A) the adapter is welded to the casing or fitted with another suitably effective seal; and]

[(B) the annular space between the borehole and the casing is filled with cement to a depth not less than 15 feet below the adapter connection.]

[(2) The casing shall extend a minimum of one foot above the original ground surface or known flood elevation.]

(f) Well placement in a flood-prone area. All wells shall be located in areas not generally subject to flooding. If a well must be placed in a flood-prone area, it shall be completed with a watertight sanitary well seal, so as to maintain a junction between the casing and injection tubing, and a steel sleeve extending a minimum of 36 inches above ground level and 24 inches below the ground surface shall be used. For the purpose of this subsection, a flood-prone area is defined as that area within the 100-year flood plain as determined on the Federal Emergency Management Agency (FEMA) Flood Hazard Maps for the National Flood Insurance Program. If FEMA has conducted a flood insurance study of the area, and has mapped the 50-year flood plain, then the smaller geographic areas within the 50-year boundary are considered to be flood prone. Closed loop injection wells and air conditioning return flow wells are exempt from the completion standards in this subsection.

(g) Other protection measures.

(1) [(f)] Commingling prohibited. All wells, especially those that are gravel packed, shall be completed so that aquifers or zones containing waters that are known to differ significantly in chemical quality are not allowed to commingle through the borehole-casing annulus or the gravel pack and cause quality degradation of any aquifer containing fresh water [zone].

[(g) The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.]

(2) [(h)] Undesirable groundwater. When undesirable groundwater, water that is injurious to human health and the environment or water that can cause pollution to land or other waters, [water] is encountered in a Class V well, the well shall be constructed so that the undesirable groundwater is isolated from any underground source of drinking water [water shall be sealed off] and is confined to the zone(s) of origin.

§331.133. Closure Standards.

(a) It is the responsibility of the owner and/or operator [landowner or person having the well drilled, deepened, or otherwise altered,] to plug or have plugged, under standards set forth in this section [these sections], a Class V well which is to be permanently discontinued or abandoned.

(b) Closure shall be accomplished by removing all of the removable casing and the entire well shall be pressure filled via a tremie pipe with cement from bottom to the land surface [filled with cement to land surface].

(c) As an alternative to [In lieu of] the procedure in subsection (b) of this section, if a class V well is not completed through zones containing undesirable groundwater, water that is injurious to human health and the environment or water that can cause pollution to land or other waters, [and if the use of a Class V well that does not contain undesirable water is to be permanently discontinued], the well may be filled with fine sand, clay, or heavy mud followed by a cement plug extending from land surface to a depth of not less than ten [10] feet below the land surface.

(d) As an alternative to [In lieu of] the procedure in subsection (b) of this section, if a Class V well is completed through zones containing undesirable groundwater, water that is injurious to human health and the environment or water that can cause pollution to land or other waters [and if the use of a Class V well that does contain undesirable water is to be permanently discontinued], either the zone(s) containing undesirable groundwater [water] or the fresh groundwater [water] zone(s) shall be isolated with cement plugs and the remainder of the wellbore filled with bentonite grout (9.1 pounds per gallon mud or more) followed by [sand, clay, or heavy mud to form a base for] a cement plug extending from land surface to a depth of not less than ten [10] feet below the land surface.