

Environmental Protection Agency

§ 147.104

(b) The following aquifers are exempted in accordance with the provisions of §§ 144.7(b) and 146.4 of this chapter for Class II injection activities only:

(1) The portions of aquifers in the Kenai Peninsula, greater than the indicated depths below the ground surface, and described by a ¼ mile area beyond and lying directly below the following oil and gas producing fields:

- (i) Swanson River Field—1700 feet.
- (ii) Beaver Creek Field—1650 feet.
- (iii) Kenai Gas Field—1300 feet.

(2) The portion of aquifers beneath Cook Inlet described by a ¼ mile area beyond and lying directly below the following oil and gas producing fields:

- (i) Granite Point.
- (ii) McArthur River Field.
- (iii) Middle Ground Shoal Field.
- (iv) Trading Bay Field.

(3) The portions of aquifers on the North Slope described by a ¼ mile area beyond and lying directly below the Kuparuk River Unit oil and gas producing field.

§ 147.103 Existing Class I, II (except enhanced recovery and hydrocarbon storage) and III wells authorized by rule.

Maximum injection pressure. The owner or operator shall limit injection pressure to the lesser of:

(a) A value which will not exceed the operating requirements of § 144.28(f)(3)(i) or (ii) as applicable; or

(b) A value for well head pressure calculated by using the following formula:

$$P_m = (0.733 - 0.433 S_g) d$$

where:

P_m = injection pressure at the well head in pounds per square inch

S_g = specific gravity of inject fluid (unitless)

d = injection depth in feet.

§ 147.104 Existing Class II enhanced recovery and hydrocarbon storage wells authorized by rule.

(a) *Maximum injection pressure.* (1) To meet the operating requirements of § 144.28(f)(3)(ii) (A) and (B) of this chapter, the owner or operator:

(i) Shall use an injection pressure no greater than the pressure established by the Regional Administrator for the field or formation in which the well is located. The Regional Administrator

shall establish maximum injection pressures after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of part 124, subpart A of this chapter, and will inform owners and operators in writing of the applicable maximum pressure; or

(ii) May inject at pressures greater than those specified in paragraph (a)(1)(i) of this section for the field or formation in which he is operating provided he submits a request in writing to the Regional Administrator, and demonstrates to the satisfaction of the Regional Administrator that such injection pressure will not violate the requirement of § 144.28(f)(3)(ii) (A) and (B). The Regional Administrator may grant such a request after notice, opportunity for comment, and opportunity for a public hearing, according to the provisions of part 124, subpart A of this chapter.

(2) Prior to such time as the Regional Administrator establishes rules for maximum injection pressure based on data provided pursuant to paragraph (a)(2)(ii) of this section the owner or operator shall:

(i) Limit injection pressure to a value which will not exceed the operating requirements of § 144.28(f)(3)(ii); and

(ii) Submit data acceptable to the Regional Administrator which defines the fracture pressure of the formation in which injection is taking place. A single test may be submitted on behalf of two or more operators conducting operations in the same formation, if the Regional Administrator approves such submission. The data shall be submitted to the Regional Administrator within 1 year of the effective date of this program.

(b) *Casing and cementing.* Where the Regional Administrator determines that the owner or operator of an existing enhanced recovery or hydrocarbon storage well may not be in compliance with the requirements of §§ 144.28(e) and 146.22, the owner or operator shall comply with paragraphs (b) (1) through (4) of this section, when required by the Regional Administrator:

(1) Protect USDWs by:

(i) Cementing surface casing by recirculating the cement to the surface

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from a point 50 feet below the lowermost USDW; or

(ii) Isolating all USDWs by placing cement between the outermost casing and the well bore; and

(2) Isolate any injection zones by placing sufficient cement to fill the calculated space between the casing and the well bore to a point 250 feet above the injection zone; and

(3) Use cement:

(i) Of sufficient quantity and quality to withstand the maximum operating pressure;

(ii) Which is resistant to deterioration from formation and injection fluids; and

(iii) In a quantity no less than 120% of the calculated volume necessary to cement off a zone.

(4) The Regional Administrator may specify other requirements in addition to or in lieu of the requirements set forth in paragraphs (b) (1) through (3) as needed to protect USDWs.

Subpart D—Arizona

§ 147.150 State-administered program. [Reserved]

§ 147.151 EPA-administered program.

(a) *Contents.* The UIC program that applies to all injection activities in Arizona, including those on Indian lands, is administered by EPA. The UIC program for Navajo Indian lands consists of the requirements contained in subpart HHH of this part. The program for all injection activity except that on Navajo Indian lands consists of the UIC program requirements of 40 CFR parts 124, 144, 146, 148, and any additional requirements set forth in the remainder of this subpart. Injection well owners and operators, and EPA shall comply with these requirements.

(b) *Effective dates.* The effective date for the UIC program in Arizona, except for the lands of the Navajo Indians, is June 25, 1984. The effective date for the UIC program on the lands of the Navajo is November 25, 1988.

[53 FR 43086, Oct. 25, 1988, as amended at 56 FR 9412, Mar. 6, 1991]

40 CFR Ch. I (7-1-03 Edition)

§ 147.152 Aquifer exemptions. [Reserved]

Subpart E—Arkansas

§ 147.200 State-administered program—Class I, III, IV, and V wells.

The UIC program for Class I, III, IV and V wells in the State of Arkansas, except those wells on Indian lands, is the program administered by the Arkansas Department of Pollution Control and Ecology approved by EPA pursuant to section 1422 of the SDWA. Notice of this approval was published in the FEDERAL REGISTER on July 6, 1982 (47 FR 29236); the effective date of this program is July 6, 1982. This program consists of the following elements, as submitted to EPA in the State's program application.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made a part of the applicable UIC program under the SDWA for the State of Arkansas. This incorporation by reference was approved by the Director of the Federal Register on June 25, 1984.

(1) Arkansas Water and Air Pollution Control Act, Act 472 of 1949 as amended, Arkansas Statutes Annotated sections 82-1901 through 82-1943 (1976);

(2) Act 105 of 1939, Arkansas Statutes Annotated sections 53-101 through 53-130 (1971 and Supp. 1981); Act 937 of 1979, Arkansas Statutes Annotated sections 53-1301 through 53-1320 (Supp. 1981); Act 523 of 1981;

(3) Arkansas Underground Injection Control Code, Department of Pollution Control and Ecology, promulgated January 22, 1982;

(4) General Rule and Regulations, Arkansas Oil and Gas Commission (Order No. 2-39, revised July 1972);

(5) Arkansas Hazardous Waste Management Code, Department of Pollution Control and Ecology, promulgated August 21, 1981.

(b) The Memorandum of Agreement and Addendum No. 1 to the Memorandum of Agreement, between EPA Region VI and the Arkansas Department of Pollution Control and Ecology