



ENVIRONMENTAL PROTECTION AGENCY

AGENCY: Environmental Protection Agency.

[FRL-3650-6]

54 FR 39230

September 25, 1989

Arbuckle-Simpson Aquifer of South Central Oklahoma Sole Source Aquifer; Final Determination
ACTION: Notice.

SUMMARY: Notice is hereby given that pursuant to section 1424(e) of the Safe Drinking Water Act, the Regional Administrator, Region 6 of the U.S. Environmental Protection Agency (EPA) has determined that a portion of the Arbuckle-Simpson Aquifer system is the sole or principal source of drinking water for an area comprising portions of Johnston, Murray, and Pontotoc counties in south-central Oklahoma, and that this aquifer, if contaminated would create a significant hazard to public health. As a result of this action, Federal financially assisted projects constructed in the outcrop area of the aquifer or its streamflow source area will be subject to EPA review to ensure that these projects are designed and constructed so that they do not create a significant hazard to public health.

DATES: This determination shall be promulgated for purposes of judicial review at 1:00 p.m. Eastern Time, October 10, 1989.

ADDRESSES: The data on which these findings are based are available to the public and may be inspected during normal business hours at the library of the U.S. Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202.

FOR FURTHER INFORMATION CONTACT: Clay Chesney, Office of Ground Water, U.S. Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas, 75202 (214) 655-6466.

TEXT: SUPPLEMENTARY INFORMATION:

I. Background

Section 1424(e) of the Safe Drinking Water Act (*42 U.S.C., 300F, 300H-3(E)*, Public Law 83-523) states:

If the Regional Administrator determines on his own initiative or upon petition that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Regional Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On July 29, 1988, Soroptimist International of Ada, Inc., of Ada, Oklahoma, petitioned the Environmental Protection Agency, Region 6, to designate a portion of the aquifer system in south-central Oklahoma as a sole or principal source of drinking water. On November 15, 1988, EPA published public notice announcing the receipt of the petition and requesting public comment. A public hearing was held in Ada, Oklahoma, on December 15, 1988. The public was invited to submit comments and information on the petition until December 30, 1988.

After review of available information, EPA determined that the aquifer system is the sole or principal source of drinking water for the aquifer service area. The aquifer recharge area and streamflow source area occupy portions of Johnston, Murray, and Pontotoc counties in south-central Oklahoma.

II. Basis for Determination

Among the factors to be considered by the Region 6 Administrator in connection with the designation of an area under section 1424(e) are: (1) Whether the aquifer system is the area's sole or principal source of drinking water and (2) whether contamination of the aquifer would create a significant hazard to public health. On the basis of technical information available to this Agency, the Region 6 Administrator has made the following findings which are the bases for the determination noted above:

1. The Arbuckle-Simpson aquifer system supplies all of the public and domestic water consumed in the aquifer service area.

2. There is no existing alternative drinking water source or combination of sources which provides 50% or more of the drinking water to the area, nor is there any available cost-effective source capable of supplying the drinking water demands for the designated area.

3. The Arbuckle-Simpson aquifer system consists predominantly of limestone, dolomite, and sandstone which crops out over a 500 square mile area, and acts as a reservoir in which water is stored in numerous interstices from small intergranular pores to open fractures and caverns. Where the aquifer is exposed at the surface in the recharge area, it is vulnerable to contamination from a number of sources including but not limited to chemical spills, highway and urban runoff, septic systems, leaking storage tanks and landfill leachate. Shallow public and domestic wells which withdraw water from the aquifer in the recharge area are most susceptible to contamination. Since ground water contamination can be difficult or sometimes impossible to reverse and since all of the drinking water in the designated area is provided by the system, contamination of the aquifer system would pose a significant public health hazard.

III. Description of the Arbuckle-Simpson Aquifer System and Its Recharge Area

The Arbuckle-Simpson Group of Ordovician age forms three distinct outcrop areas in the Arbuckle Mountains of south central Oklahoma. The designated area consists of the easternmost of the three outcrop areas, and occupies approximately 330 square miles in portions of Johnson, Murray, and Pontotoc counties.

The Arbuckle and Simpson Groups that comprise the aquifer system consist of limestone, dolomite and sandstone. All rocks of the aquifer system have been structurally deformed and act as a reservoir in which water is stored in numerous small intergranular pores, open fractures and caverns.

The northwestern boundary of the outcrop area consists of a sedimentary contact where the aquifer plunges below younger sedimentary rocks of Pennsylvanian age. The contact meanders toward the northeast from the vicinity of the town of Sulphur to a point about one mile northeast of the town of Roff where it abruptly turns to the east.

The contact passes south of Fitzhugh where it is disturbed by a set of faults. The northeast boundary, which extends from Fitzhugh to a point just west of Bromide consists of sedimentary contacts where the aquifer passes under younger rocks, but much of this area is cut by a series of closely spaced faults which divide the rocks into numerous small fault blocks. It is probable that the aquifer does not extend far into the subsurface along the northeast boundary before it is interrupted by faults which severely restrict circulation of the ground water.

The southern boundary of the outcrop area is strongly dominated by several long faults which terminate the aquifer at pre-Cambrian granite or younger sedimentary rocks.

The aquifer is recharged by precipitation which falls on the outcrop area within the above described boundaries, and to a lesser extent by streams which originate within the streamflow source area which lies just outside the outcrop area.

The streamflow source area occupies a relatively small tract one to two miles wide along the northwest boundary of the recharge area. Starting at a point 1.3 miles south of Sulpur, this boundary meanders northeast along a watershed divide which generally parallels the aquifer boundary and ranges in elevation between 1200 and 1250 feet. It passes 1.8 miles west of the town of Roff, and continues northeast, approximately 5 miles where it turns southeast and terminates at a point 3 miles southeast of the community of Fitzhugh.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition, written and verbal comments submitted by the public, and various technical publications. The above data are available to the public and may be inspected during normal business hours at the library of the U.S. Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202.

V. Project Review

Projects with Federal financed assistance which are located in the designated area or in the streamflow source area will be subject to review for their potential to contaminate the aquifer.

EPA Region 6 will work with Federal agencies that in the future may provide financial assistance to the projects in the area of concern. Interagency procedures will be developed in which EPA will be notified of proposed commitments by Federal agencies for projects which could contaminate the aquifer. EPA will evaluate such projects and where necessary conduct an in-depth review, including solicitation of public comments where appropriate. Should the Regional Administrator determine that a project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health, no commitment for Federal financial assistance may be entered into. However, a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer. Although the project review process cannot be delegated, the U.S. Environmental Protection Agency will rely to the maximum extent possible, on any existing or future state and local control mechanisms in protecting the ground water quality of the aquifer.

Included in the review of any Federal financially assisted project, will be coordination, as needed, with the State and local agencies. Their comments will be given full consideration, and the Federal review process will attempt to complement and support State and local ground water protection mechanisms.

VI. Summary of Public Comments

Of the comments received at the public hearing and during the comment period, eight were in favor of designation, eight were opposed and three were undecided. Major issues raised by these comments are discussed below.

One commenter was concerned that designation would have a stifling effect on the local economy. EPA believes that the economic impacts resulting from designation will be minimal because relatively few projects should need review under the program and most reviews will be conducted within the timeframes normally used for review by the lending agencies.

Several people commented that the designation would constitute a duplication of existing Federal, State, and local regulations. Although a number of ground water protection measures are available at the State and local level, none of these, either individually or collectively permit EPA to act as directly as would a sole source aquifer designation.

One commenter protested that designation would result in land use restrictions which would partially condemn the land. However, this will not be the case because the program involves only the use of Federal funds and because projects are evaluated on an individual basis. No activity is banned in a designated area and EPA cannot require that the land be used in any particular manner. Designation does not confer jurisdictional power over ground water to EPA. In fact, the only discretionary power EPA can exercise under section 1924(e) in a designated area is to block Federal funding for Federal financially assisted projects which might contaminate the aquifer.

54 FR 39230

Dated: September 13, 1989.

Robert E. Layton Jr.,

Regional Administrator, Region 6.

[FR Doc. 89-22580 Filed 9-22-89; 8:45 am]

BILLING CODE 6560-50-M

