

ILLINOIS POLLUTION CONTROL BOARD
July 23, 1981

LAKE BARRINGTON COMMUNITY HOMEOWNERS ASSN.,)
)
) Petitioner,)
)
) v.) PCB 81-58
)
 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

OPINION AND ORDER OF THE BOARD (by J. Anderson):

This matter comes before the Board on the petition for variance of the Lake Barrington Community Homeowners Association (Association) filed April 16, 1981 as amended May 7, 1981. The Association seeks variance from the 1.0 mg/l barium standard of Rule 304(B)(4) of Chapter 6: Public Water Supplies. The Illinois Environmental Protection Agency (Agency) filed its Recommendation in support of variance on June 8, 1981. Hearing was waived and none has been held.

One of the purposes for which the not-for-profit Association was created was to own and operate the water supply system for a 500 acre residential development known as Lake Barrington Shores, located in the Village of Lake Barrington, Lake County. Of 1350 planned units, 700 have been completed, most of which are attached single family units.

A deep well and shallow well have been drilled to serve the Association. This 129 feet deep well is not in use, due to "expressed but unconfirmed concerns of some neighboring homeowners that a major user, such as Lake Barrington Shores, might draw down the water table and adversely affect their wells" (Pet., Ex. 1, p.1).

Since deep Well #2 was drilled and a 500,000 gal. reservoir was constructed in 1977, it has been the Association's sole source of water, except for a short time during the spring of 1980 when the shallow well was put back into operation to allow for testing of both wells and repairs to Well #2's pump. The Village has presented the results of sixteen tests for barium on Well #2 performed by four laboratories between March and December, 1980 plus two earlier tests in 1976. The various barium readings are somewhat difficult to reconcile, as they range from 0.16 to 18.5 mg/l. However, 14 out of 18 tests exceed the 1.0 mg/l barium standard. (Pet. attach. A to Ex. A.)

Water from Well #2 is pumped at a maximum capacity of about 450 gallons per minute (gpm). Barium sulfate was discovered as a causative factor in earlier well pump failure. When the entire development is complete, it is estimated that the Association's water needs will be approximately 730 gpm (with a fire flow requirement of 2,000 gpm for two hours). Thus, even if Well #2 complied with the barium standard, the Association would need to develop additional water capacity.

In preparing its petition for variance, the Association's consultant, Hooper Engineers, Ltd., has examined "the economics of the various alternatives and possible alternatives to meet the requirements of both quality and quantity for the entire development." The Association is therefore in the process of determining whether drawing from shallow Well #1 will in fact adversely affect neighboring shallow wells. If it does not, the Association might plan to drill an additional shallow well which, in conjunction with Well #1, would be used as a primary water source to replace the deep well. This option would cost \$195,000; if iron removal would be required \$300,000 must be added, and if complete softening is required \$200,000 more must be added.

Another option suggested was to enlarge the pumping capacity of Well #2, remove the barium, and drill another small, shallow, standby well. The well development costs are again estimated to be \$195,000 with barium treatment equipment costs figured at \$500,000.

It was finally suggested that the Village consider locating a shallow well or wells on Association property located adjacent to the Fox River. Well development costs were figured to be about \$175,000, with \$300,000 to be added for iron removal and \$200,000 more for softening, if necessary.

In addition to the capital cost of each option, annual operation and maintenance costs were calculated. Iron removal would cost an additional \$17,098 and softening would cost \$42,745, although if options 1 or 3 were chosen credits for power would reduce the figure \$12,000 annually. It was also stated that softening would create a backwash disposal problem, and would raise the sodium content of the water to about 125 mg/l.

The Agency believes that the level of barium in the Association's water imposes no threat to the health of its users. Even though Well #1 would provide "an adequate source of water which is in compliance" with the Board's mineralogical standards, the Agency favors grant of variance because "there is a very real threat of hardship to the surrounding homeowners". The Agency would, however, have the Board require that the Association determine whether use of Well #1 does in fact significantly affect the water level in neighboring wells.

Based on this record, the Board cannot grant variance until January 1, 1984, the maximum period permissible under Section 1416 of the Safe Drinking Water Act. The Association is clearly in the early stages of determining how its water quantity and quality needs are to be met, with the result that the Association itself, let alone the Board, is not fully aware of compliance costs and options. (The Board notes that the Village has not considered the feasibility of blending waters from its deep well with water from its shallow well.) Too, while it is true that the barium standard is under review at the federal level, the Association's water contains barium far in excess of the current applicable standard, and far in excess of the 2.0 mg/l USEPA guideline for exemptions under §1415 of the Safe Drinking Water Act for states having primacy of enforcement.

The Board does find, however, that to immediately disallow continued use of Well #2 would impose an arbitrary or unreasonable hardship. Variance is therefore granted for a one year period, during which time the Village shall continue to investigate and pinpoint sound, economically and technically feasible compliance options.

This Opinion constitutes the Board's findings of fact and conclusions of law in the matter.

ORDER

1. Petitioner, Lake Barrington Community Homeowners Association, is hereby granted a one-year variance from the 1.0 mg/l maximum barium concentration limitation of Chapter 6: Public Water Supplies, subject to the following conditions:

A. Petitioner shall expeditiously commence and continue the proposed water survey outlined in Exhibit A to its variance petition at p. 4, which is incorporated by reference herein as if fully set forth.

B. On or before June 1, 1982, Petitioner shall develop and submit to the Agency a plan to reach compliance with then-existing barium standards.

C. Petitioner shall take all reasonable measures with its existing equipment to minimize the level of barium in its finished water.

D. Pursuant to Rule 313(D)(1) of Chapter 6, on or before September 30, 1981 and every three months thereafter Petitioner shall send to each user of its public water supply a written notice to the effect that Petitioner has been granted by the Pollution Control Board a variance from the 1.0 mg/l maximum barium standard. The notice shall state the average content of barium in samples taken since the last notice period during which samples were taken.

2. Within forty-five days of the date of this Order, Petitioner shall execute and forward to Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 81-58, dated _____, understand and accept the said conditions thereto binding and enforceable.

Petitioner

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

Mr. Dumelle concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 23rd day of July, 1981 by a vote of 5-0.

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board