

BEFORE THE ENVIRONMENTAL APPEALS BOARD OF THE  
STATE OF DELAWARE

IN RE: )  
          ) ORDER  
THE APPEAL OF ARTESIAN WATER COMPANY )

A public hearing was held before the Environmental Appeals Board of the State of Delaware on Tuesday, August 26, 1975 at Newark, Delaware and Wednesday, September 10, 1975 at Dover, Delaware, upon the appeal by Artesian Water Company from the decision of the Secretary of the Department of Natural Resources and Environmental Control embodied in Order Number 75-WS-1. Board members present at the hearing were Loren H. Frye, Chairman, Patricia Derrickson, Joseph B. Melson, Phyllis Schabinger, Earl B. Tull, Robert L. Boyer, and Ray K. Woodward. Also present were Robert Graham, State Solicitor, Counsel to the Board, June D. MacArtor, Deputy Attorney General, Counsel to the Department of Natural Resources and Environmental Control, Sidney R. Chirlin, Esquire, Counsel to Wilmington Suburban Water Company, Thomas D. Whittington, Jr., Counsel to Artesian Water Company, representatives of the Greater Hockessin Area Development Association and of the League of Women Voters, and members of the general public.

This is an appeal from the decision of the Secretary of the Department of Natural Resources and Environmental Control (hereafter "Department") with respect to the allocation of water from the Hockessin area well field of the Artesian Water Company (hereafter "Artesian"). Artesian proposed, and the Department agreed, that the hearing before the Board be in the nature of a hearing de novo; upon agreement of counsel for both parties,

the Board admitted into evidence the transcript of the hearing before the Department.

FINDINGS OF FACT

1. The Department of Natural Resources and Environmental Control has issued an order granting a water allocation (annual average: 1.8 million gallons per day; total instantaneous pumping rate: 2.5 million gallons per day) to the Artesian Water Company for the Hockessin well field in Order No. 75-WS-1 from which the Artesian Water Company has appealed.
2. Artesian Water Company drilled its first well in the Hockessin area about 1962 and now has 5 producing wells (not including well #4) which can produce up to 2.9 million gallons per day but which actually have produced up to an average of 1.6 million gallons per day. Well #4, known as the Snyder Well, was drilled in 1974 and tested for 48 hours on August 27, 1974, at a pumping rate of 1 million gallons per day.
3. The Department issued an allocation for Well G-1 in January, 1974, for a 3 year period at a pumping rate of 400 gallons per minute at a maximum level of 110 feet. Well #2 was given an allotment of 1.44 mgd by the Water and Air Resources Commission in 1968. Wells #1 and 3 have never been issued formal allocations. Prior to the Secretary's Order of June 27, 1975, Artesian could have withdrawn in excess of 3 million gallons per day (although the Department could

have imposed limits on this withdrawal).

4. Artesian provides water to approximately fifty-four percent of the properties located within the Hockessin drainage basin.
5. There are existing and potential users of the Hockessin aquifer other than Artesian. There is no testimony which specifically indicates the percentage of such other users.
6. Based upon expert estimates of the safe yield from the Hockessin or Cockeysville Marble aquifer, the Board finds the estimated sustained safe yield of that aquifer (on an annual basis that will not exceed the recharge rate), to be between 2.0 and 2.5 million gallons per day.
7. Ground water recharge of the Hockessin aquifer is derived solely from precipitation on the basin.
8. There is evidence that Artesian's pumping has reduced stream flow.
9. The best way to determine the sustained safe yield of the aquifer is through test pumping at the upper limit of the estimated sustained safe yield and carefully monitoring the test results and the components of the hydrologic budget. (State presentation conclusion No. 6, T-Woodruff, P.200; T-Varrin, p.61; Moody).

10. Artesian has historically utilized more water from the Hockessin well field during certain periods in summer than is replaced by rainfall. This use of the aquifer as a reservoir is recognized as a proper water management tool so long as the short term withdrawal does not significantly affect other users.
11. High level pumping will possibly cause the dewatering of other existing wells.
12. A realistic monitoring program will permit ample warning of any dewatering of wells located in the Hockessin basin.
13. High level pumping will probably cause no permanent damage to the aquifer.

#### CONCLUSIONS OF LAW AND ORDER

The Delaware Code (7 Del. C. §6010[F][i]) and pertinent regulations of the Department (Regulation 1, Section 2) require the Department to approve the allocation and use of water in Delaware on the basis of equitable apportionment and reasonable beneficial use. In consideration of the foregoing findings and pursuant to 7 Del. C. Ch. 6, it is hereby ordered that the total allocation order for the Artesian Water Company wells in the Hockessin Valley be revised to reflect the following conditions:

1. Allocation - The total allocation for all wells in the Hockessin Valley shall be 693,500 million gallons per year (1.9 mgd on an annual basis). The pumpage in any calendar month shall not exceed 100 million gallons. The total instantaneous pumpage rate shall not exceed 3.0 mgd except during test periods as approved by the Department of Natural Resources and Environmental Control in writing. This pumpage will be subject to the following restrictions:

<u>Well</u>	<u>Maximum Pumping Rate (gpm)</u>	<u>Maximum Pumping Level (Feet Below Land Surface)</u>
1	425	120
2	425	200
3	425	120
G-1	400	125
G-3	300	115
4	700	100

2. Testing
  - a. The Artesian Water Company may make application to the Department of Natural Resources and Environmental Control for testing at higher levels than the 3.0 mgd instantaneous pumping rate. These tests may be arranged so that the resulting water production can aid in meeting peak demands of Artesian Water Company.

b. The Testing shall not be done until the monitoring requirements as outlined in 3 below are in operation and have been so certified in writing by the Department of Natural Resources and Environmental Control.

c. The testing shall not be done until a Bond or Escrow Account has been arranged to allow payment for the provision of a new well or connection with Artesian as provided for below, at the owner's option, for any owner of an existing operating well within the topographic Drainage Basin Boundary as outlined on the Moody Report map which goes dry during the period of the test and two weeks following (subject to a Department determination that Artesian tests probably caused such a dewatering).

d. Artesian Water Company may make application to the Department of Natural Resources and Environmental Control for a modification of this allocation order after testing and analysis of all available data.

3. Monitoring Requirements

A. Artesian Water Company shall install, maintain and operate for the duration of the allocation one water level recorder in each production well in order to obtain a continuous record of water levels during pumping periods and recovery levels during non-pumping periods.

b. Artesian Water Company shall install, maintain and operate for the duration of the allocation one automatic water level recorder in each observation well. The number of wells and their locations shall be determined between the Artesian Water Company and the Department of Natural Resources and Environmental Control.

c. Artesian Water Company shall install, maintain and operate for the duration of the allocation one continuous water level recorder for stream gauging purposes at the mouth of the Hockessin Basin in Mill Creek.

d. Artesian Water Company shall install, maintain and operate for the duration of the allocation, one continuous water level recorder for stream gauging purposes at an upstream point near the Schist-Marble contact plane.

e. Artesian Water Company shall install, maintain and operate for the duration of the allocation one continuous recording rainfall gauge at a central point in the basin.

f. Artesian Water Company shall install, maintain and operate one meter for each production well to measure total gallons of water pumped.

4. Reporting Requirements

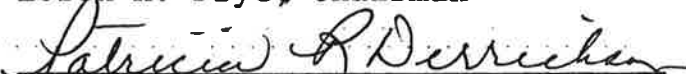
A tabulation of water levels, pumpage, precipitation, and stream flow data for each month and copies of the observation well recorder charts shall be sent to the Division of Environmental Control within fifteen (15) days after the end of the month.

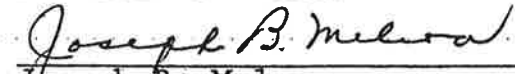
5. Resource Development

Artesian shall actively pursue a program designed to develop additional sources of water within its service area in New Castle County. These additional sources of water shall not be limited to groundwater, but must also take into account surface water alternatives.


DATE: October 8, 1975

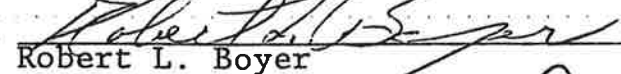
  
Loren H. Frye, Chairman

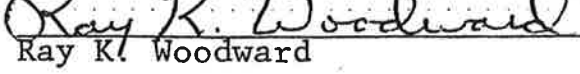
  
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