

Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

3.200 Bon Gor-Lake Estates
Boone County
PWS #3036153

www.dnr.mo.gov

June 19, 2006

FILED
August 2, 2007
Data Center
Missouri Public
Service Commission

Mr. Gordon Burnam
Mobile Village Trailer Park
Vandiver Park Office
1501 Vandiver Drive # 88
Columbia, MO 65202

Dear Mr. Burnam:

Enclosed is a copy of a Compliance and Operation Inspection Report on the public water system serving Bon Gor-Lake Estates. Please direct your attention to the recommendations contained in the report and then send a response to this inspection within 60 days. Your response should be specific in detailing how you intend to correct the problems identified.

If you have any questions or comments concerning this matter, please contact Mr. Michael Elkana at (660) 385-8000 in the Northeast Regional Office, 1709 Prospect Drive, Macon, MO 63552.

Sincerely,

NORTHEAST REGIONAL OFFICE

G. Irene Crawford
Regional Director

GIC/mek

Enclosures: Compliance and Operation Inspection Report; Model Emergency Operating Plan
Bacteriological Sampling Site Plan; Monthly Chlorine Record Form

c: Public Drinking Water Branch
Ms. Paula Belcher, Mobile Village Trailer Park, Vandiver Park Office
Mr. Dale Johansen, Public Service Commission
Boone County Health Department

cc the



STAFF Exhibit No. 12
Case No(s) WC-2007-0452
Date 7-26-07 Rptr PC

COMPLIANCE AND OPERATION INSPECTION REPORT
PUBLIC WATER SYSTEM
BON GOR LAKE ESTATES
BOONE COUNTY
PWS #3036153
June 19, 2006

INTRODUCTION

On March 22, 2006, a representative of our Northeast Regional Office conducted a compliance and operation inspection on the Bon Gor Lake Estates public drinking water system. The purpose of the inspection was to determine the system's compliance with the Missouri Safe Drinking Water Act and the Missouri Public Drinking Water Program Regulations. Recommendations to correct deficiencies found, during this inspection, are outlined as follows.

FINDINGS

1. In response to customer complaints of low water pressures, the department installed a pressure recorder on a customer of Bon Gor Lake Estates. The recorder showed that pressures below 20 psi were occurring frequently every day. Missouri Public Drinking Water Regulation 10 CSR 60-4.080(9) requires a public water system to maintain a minimum positive pressure of 20 psi throughout the distribution system under all normal conditions. This minimum safe pressure is set by regulation because pressures below 20 psi can allow contamination to enter the water system. Twenty pounds per square inch is the minimum positive pressure required to force water out and not let contamination in a system. Thus, the system is in violation of the regulations for not maintaining safe water pressures. Further study is needed to determine what is causing the low water pressures. Low pressures can be caused by inadequately sized mains or improperly operating the water tower and other causes. Therefore, the system must enlist the services of a consulting engineer to determine the cause of the low pressures and to determine how to correct the problem. This issue must be addressed because low water pressures are a serious health hazard.
2. The condition of the standpipe appears to be so poor that it needs to be replaced. There has been some attempt to repair holes in the standpipe but other holes still exist. The holes in the standpipe bring the integrity of the standpipe into question. Holes seldom develop in a standpipe unless severe pitting is occurring over areas of the standpipe. It is likely that repairs to the standpipe will require the replacement of sections and may cost more than the standpipe is worth. A previous inspection report indicates that the standpipe was inspected but the department did not receive a copy of the inspection report. Please have the standpipe inspected by a qualified inspector and submit a copy of the inspection report to this office along with copies of the pictures taken during the inspection.
3. Painting the well casing was a good move but the casing is severely pitted and damaged. The department recommends that the interior of the well casing be inspected to evaluate the damage inflicted on it and recommend appropriate action to be taken.

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4. The system violated Missouri Public Drinking Water Program Regulation 10 CSR 60-4.080(3) by failing to test for chlorine residuals daily at the well and to record the results. Please test for chlorine residuals daily at the well and record the results. A Monthly Chlorine Record form is enclosed.
5. Missouri Public Drinking Water Program Regulation 10 CSR 60-12.010 requires all community public water systems to have a written plan for assuring continued water service under emergency conditions. The plan must designate an emergency coordinator and key personnel to be on call under emergency conditions. It must also designate people authorized to expend funds during an emergency so that the materials and equipment necessary to safely abate an emergency can be quickly obtained. A copy of the plan must be made available to all key-operating personnel and for review by department personnel during inspections. Please develop a plan that will be used to mitigate emergencies within 60 days. A model plan is enclosed for your reference. Electronic versions of this plan can be obtained from the Public Drinking Water Branch.
6. The system is currently collecting routine bacteriological samples from one location every month. The routine bacteriological samples must be taken at a different location each month by a set rotation through the sampling plan. This allows Bon Gor Lake Estates administration to monitor the entire distribution system for both contamination and chlorine residuals. A minimum of five routine sampling sites is required. Each routine sampling site must have two additional sites for additional sampling in the event that a positive sample is collected. Please send this office a copy of the updated sampling plan. The forms and instructions are enclosed.
7. The Missouri Department of Natural Resources sets drinking water standards and has determined that proper operation of water systems is necessary to assure that the water delivered does not cause waterborne disease. Consequently, Missouri Public Drinking Water Regulation 10 CSR 60-14.010 requires all community and non-transient non-community public water systems to be under the direct supervision of a duly certified chief operator and requires certification of all system operators. The rule also requires each system to have a contingency plan for standby replacement of the chief operator. Bon Gor Lake Estates does not have a chief operator with the proper certificate to run the distribution system and it also does not have a standby replacement for the chief operator. Bon Gor Lake Estates must hire a chief operator with the required certificate.
8. At the time of the inspection the system operator did not have an up-to-date distribution map. Please update your distribution map and submit a copy to the department within 60 days.
9. To comply with Missouri Public Drinking Water Program Regulation 10 CSR 60-9.010, public water systems must maintain records of the water quality and system operation on their premises for specific lengths of time. The records that must be retained and their time

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frames are as follows: Retain records of operational and bacteriological analyses done on the water for five years. Retain records of chemical analyses done on the water for 10 years. Retain records of actions taken by the system to correct violations for three years. Retain records of reports or communications relating to sanitary surveys or system inspections for 10 years. Retain records of variances or exemptions granted to the system for five years.

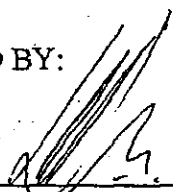
10. The well did not have draw down testing equipment at the time of inspection. Draw down, yield and static water level tests must be performed and recorded once every month on the well. These tests are necessary to determine if the well and its pump are operating properly. The tests will alert an operator to pump problems or low water levels in the well before a pump fails or the well completely quits and leaves the Bon Gor Lake Estates out of water. Please install draw down testing equipment the next time the pump is pulled for maintenance and read and record the draw down, yield and static water level test readings monthly. Please notify this office when the draw down equipment is installed.
11. Bon Gor Lake Estates management must prepare a written agreement prohibiting any customer's water system from using lead pipes, lead pipe fittings and lead solder and flux for construction, expansion, modification or improvement of the customer's water system. The Bon Gor Lake Estates management must have the customers sign the agreement.
12. Overflows on the elevated storage tank must extend down to an elevation between 12 and 24 inches above the ground surface. The overflow shall terminate at the bottom with an elbow directed away from the foundation, and shall discharge over a drainage inlet structure or splash plate. The Bon Gor Lake Estates standpipe has its overflow pipe at the top of the standpipe. Please have the overflow pipe extended to an elevation between 12 and 24 inches above the ground surface the next time maintenance work is done on the standpipe.
13. The manway at the bottom of the standpipe is too small for a person to pass through. Manways are intended for workers to enter and exit standpipes when working on its interior. Please install at least a 24-inch diameter manway the next time major maintenance is done on the standpipe.
14. Water loss in a distribution system is an important indicator of the condition and operation of the system. In addition, tracking water loss is a sound business practice. When water loss exceeds 10% of production, it is excessive and spending money to reduce this loss will be cost effective. Bon Gor Lake Estates management must develop an accounting method to monthly determine water loss in the system. This needs to include water sold, water used in Bon Gor Lake Estates services, in fire fighting, in flushing the system and in street washing, and any other known unmetered water use during each month. Once water loss is routinely determined, the cause of the excessive water loss must be found. A common cause of excessive water loss is inaccurate meters because as with most mechanical devices, meters

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slow down with wear. Any large meter (greater than one inch in size) should be tested and calibrated every two years. Therefore, the master meter at the well house should be calibrated to assure it is accurate. If the water loss is still excessive, after the master meter has been calibrated a leak detection survey should be made of the water system. Some help is available for this. The Missouri Rural Water Association has equipment for leak detection and provides a leak detection service that is free to all members.


15. The chlorine solution tank is not vented outside the building. This will allow vapors from the chlorine solution to corrode the equipment and metal piping in the pump house. Please see that this is quickly corrected and notify this office within 90 days.
16. This department is required to assure the safety and adequacy of public water supplies. This includes reviewing security measures provided to protect water quality and water system operation. The access ladder to the Bon Gor Lake Estates standpipe is not covered with a ladder guard. Bon Gor Lake Estates needs to consider its liability and add a ladder guard on the bottom portion of the standpipe ladder. This will keep children off the standpipe, hopefully, before someone gets hurt or the standpipe is damaged.

SUBMITTED BY:


Michael A. Elkana
Environmental Specialist II
Northeast Regional Office

MAE/ks

APPROVED BY:


Everett C. Baker, P.E.
Environmental Engineer IV
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