



COOS COUNTY Public Health

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Broadbent Church System (PWS 4194624J)
Jim Pearce
50893 HWY 42
Broadbent, OR 97414

Subject: Corrective Action Required for Broadbent Church System to Address Source Water Fecal Contamination at "Dug Well" Water Source

Mr. Pearce:

The Drinking Water Services (DWS) has verified recent monitoring which confirms fecal (*E. coli*) contamination of the dug well including these sample results:

Sample Date	Sample Type	Sample Location	Result
9-28-14	Routine	Mens' Room	Positive for <i>E. coli</i>
10-5-14	Triggered Source	Well	Positive for <i>E. coli</i>
10-20-14	Confirmation	Well	Positive for <i>E. coli</i>

Under the Groundwater Rule, Broadbent Church must take corrective action to address the fecal contamination associated with the source. The water system will be required to be in compliance with an approved corrective action plan by April 3, 2015. Please contact me by February 12, 2015 to confirm your understanding of what is required.

The following two actions you should be actively engaged in.

- 1) Provide a conspicuous boil notice at any likely point of use. Maintain the notice until you receive correspondence from Coos County Public Health or Oregon Drinking Water Services that it is no longer needed (and that 4-log viral disinfection is confirmed). In the interim, on a monthly basis, provide a copy of the public notice to DWS-DMCE at PO Box 14450, Portland, OR 97293-0450. You may also fax the report to (971) 673-0694 or email to dwp.dmce@state.or.us.

- 2) Maintain a free chlorine residual in the distribution system measured at 1.0 mg/L and on a monthly basis for any day there are visitors in the church, complete the attached "Monthly Disinfection Report for Ground Water Systems" and submit to DWS-DMCE as per the directions in the preceding paragraph.

By April 3, 2015 complete the plan review process and implement one of the following remedies for fecal contamination of the water source. (Initiate plan review by calling 971-673-0408.)

- 1) Abandon the *E. coli* contaminated well and connect to an existing public water system already meeting state approval.
- 2) Abandon the *E. coli* contaminated well, provide adequate storage capacity and haul water from an approved public water system.
- 3) Abandon the *E. coli* contaminated well and drill a new well in hopes of finding a new aquifer without fecal contamination at present and not likely to be present in the future.
- 4) Reconstruct the existing well using current well construction standards. (As well reconstruction does not always eliminate fecal contamination expect to maintain 4-log viral disinfection and compliance monitoring, at least for a time, to determine if contamination is eliminated.)
- 5) Correct the deficiencies to the dug well listed below and provide 4-log viral disinfection.

Well Deficiencies to Correct

- a) Assure any openings leading directly into the well casing are sealed.
- b) Eliminate any exposed plane on top of the casing and close to the well cap where water may puddle and gradually seep into a seam or crevice into the well. A new well cap could have a shoe box lid design.
- c) Eliminate any absorbent surface exposed to the elements with potential to act as a contamination conduit into the well. Both the wood for the well cap and foam used on the well cap and foam used where conduit comes from the casing are considered absorbent. If the surfaces of these existing materials are intact it might be worth carefully providing epoxy to make each surface nonabsorbent.

Provide 4-log Viral Disinfection

- a) Under the Groundwater Rule, compliance monitoring means chlorinating with enough contact time to achieve 4.0-log viral inactivation, maintaining a minimum chlorine residual at the entry point at all times and reporting to the DWS on a monthly basis.

I am confident that you can achieve this level of disinfection with the equipment you now have. At the very least it will require moving the Rosedale filter immediate to the well and base your minimum chlorine strength on a formal

tracer study rather than desk calculations. The document attached to this letter provides some insight for a tracer study design. Before conducting a tracer study, the study design must be approved by state Drinking Water Services (DWS). DWS will not likely accept tracer study data without first approving the study design.

I believe each option identified above requires plan review approval before actually implementing changes to the system. Initiate plan review by calling 971-673-0408.

April 3, 2015 is the goal is to provide a remedy to the fecal contamination of the water source. If the water system fails to take action within the required time frame, notification must be provided to persons served by the water system in April. A repeat public notice will be required every three months until all deficiencies are corrected or the water system is in compliance with an approved corrective action plan. A copy of the public notice must be forwarded to DWS-DMCE at PO Box 14450, Portland, OR 97293-0450. You may also fax the report to (971) 673-0694 or email to dwp.dmce@state.or.us.

Please call me by February 12, 2015 to confirm your understanding of requirements outlined in this letter, including the on-going boil notice, maintaining 1.0 mg/L free chlorine residual, submitting the "Monthly Disinfection Report for Ground Water Systems" and set a course to remedy the fecal contamination of the water source by April 3, 2015.

If you do not believe it is reasonable to complete corrective action for the fecal contaminated source by the due date you are expected to propose an alternative due date to complete corrections including a reasonable justification to allow this condition to continue.

If you have any questions or concerns, or would like this in an alternate format, please contact me at 541-751-2403. I appreciate your immediate attention to this matter.

Sincerely,

Rick Hallmark
Environmental Health Program Manager

CC: Jay MacPherson DWS

Encl: Monthly Disinfection Report for Ground Water Systems
Tracer Study Model