

March 2, 2011

Eric Powell, Systems TC  
Breitenbush Hot Springs  
PO Box 578  
Detroit, OR 97342

**Re: Cartridge Filtration System (PR# 28-2010)**  
**Breitenbush Hot Springs (PWS ID# 93461)**  
**2<sup>nd</sup> Conditional Approval**

Dear Eric:

Thank you for your submittal to the Drinking Water Program (DWP) of plan review information for the cartridge filtration system for Breitenbush Hot Springs. On January 12, 2011, our office received schematics and model numbers. A plan review fee of \$750 was also received.

The project includes a cartridge filtration system by Filtration Systems, including pre-filters (500-P000-P2-DP-150-DW-32-PS) with NS-122 housing (triple housing assembly NS-322) and final filters (700-P001-P2-IP-DP-150-DW-32-PS) with NS-122 housing (quadruple housing assembly NS-422-V-LP-3). Filtration Systems verified via email that despite some model number discrepancies, these units are the same as the units on DWP's LT2 approved model list. The units are given a 2.0-log Giardia and 2.0-log Cryptosporidium removal credit. Disinfection will provide the remaining 1.0-log inactivation.

Pressure gauges are provided before and after each filter. Raw and finished sample taps are also provided.

The plans are approved with the following conditions:

- All equipment and chemicals are National Sanitation Foundation 60 & 61 approved or equivalent.
- The three sample taps at the sink must be clearly labeled, with the raw sample tap and pre-chlorination/post-filtration tap both marked as "non-potable water."

Documentation demonstrating how the above conditions were met should reference Plan Review #28-2010 and can be emailed to me at Carrie.L.Gentry@state.or.us or mailed to:

Attn: Carrie Gentry  
DHS-Oregon Drinking Water Program  
PO Box 14450  
Portland, OR 97293-0450

In addition to the above requirements, I have the following comments:

- Breitenbush Hot Spring's operation and maintenance manual should be updated to reflect Filtration System's recommended replacement schedule for cartridge filters.
- The recent tracer study was completed using a 7.5 gpm demand flow from the existing reservoir. If the demand flow increases by 10%, then a new tracer study to determine contact time will be required.
- Breitenbush Hot Springs intends to install a new reservoir in the near future. The plans and specifications for that reservoir must be submitted prior to construction. The plans can be submitted under plan review number #28-2010 with no additional plan review fee required. Completion of a new reservoir will require a new tracer study to determine contact time.

If you have any questions or would like this in an alternate format, please feel free to call me at (971) 673-0191.

Sincerely,



Carrie Gentry, PE  
Regional Engineer  
Drinking Water Program

cc: Gregg Baird/DHS-DWP