



November 17<sup>th</sup>, 2017

Mr. Andrew Cramer  
Whaleshead RV Park and Resort, PWS #41-94489  
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Portland, OR 97236

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Springfield, OR 97477  
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[www.healthoregon.org/DWP](http://www.healthoregon.org/DWP)

**RE: RECONSTRUCT DRINKING WATER SOURCES OR PROVIDE  
APPROVED SURFACE WATER TREATMENT**

Dear Mr. Cramer:

This letter follows up on a site visit to the Whaleshead RV Park & Resort drinking water system on 10/10/17 where we met with Vic Lindsay. The group included Casey Lyon, Shawn Stevenson, and I from Oregon Health Authority/ Drinking Water Services (DWS), Greg Wacker from Oregon Water Resources Department, and Kent Downs from Curry Community Health.

One of the main purposes of the visit was to assess the condition of Whaleshead's sources of drinking water because the fecal microbial contaminant *E. coli* has been confirmed in all of them. A contact report of that visit and a system schematic is attached. Based on the surface water observed all around the upper spring (SRC-BA), we suspect it is infiltrating into the culvert; this is a major public health concern as your chlorination treatment alone is not sufficient to remove and inactivate surface water pathogens such as *Giardia* and *Cryptosporidium*.

Per the source evaluations completed by our regional hydrogeologist (attached):

- Sources **AA**-Dug well #1 (old lower cistern), **AB**-Dug well #2 (spare unconnected cistern), **AD**-New dug well #4 (not plumb), and **BA**-Spring do not meet current construction standards for groundwater wells or springs.
- Source **AC** (New dug well #3) may meet current construction standards for dug wells, however we cannot determine that until receiving a well log documenting the well's construction.

**Compliance Options.** You have the following options to continue using sources that do not meet groundwater construction standards in your public drinking water system:

- a) Reconstruct them to meet current construction standards (that is, OAR 333-061-0050(2)(a)(I) for the dug wells, or OAR 333-061-0050(2)(b)(A) for springs, see enclosure); or
- b) Commit in writing to installing and maintaining permanent surface water treatment before both entry points to the distribution system. Approved surface water treatment is described on page 3 of this letter and in OAR 333-061-0032. Installing surface water treatment would forgo the need to meet groundwater source construction standards.

Either of the above options would constitute a major modification of the water system and must be approved by DWS through our plan review process. Plan review information may be found at [healthoregon.org/pwsplanreview](http://healthoregon.org/pwsplanreview) (the general email address is [dws.planreview@state.or.us](mailto:dws.planreview@state.or.us)). These plans must be prepared by a registered professional engineer.

#### **Corrective Action Timeline.**

1. By **December 31, 2017**, OHA Drinking Water Services must receive a written corrective action plan. This plan must specify which of the two compliance options listed above you will take to comply with the Safe Drinking Water Act and your anticipated timeline.
2. By **March 31, 2018**, submit construction plans to DWS for plan review.
3. By **June 30, 2019** complete construction/installation of the proposed improvements so that the water system returns to compliance with safe drinking water standards. Extensions can be granted only if significant progress is shown.

If DWS does not receive a written corrective action plan by December 31, 2017, it will trigger formal enforcement action from our department, which could include the assessment of civil penalties.

**Recent Developments.** Before the site visit, Vic Lindsay had installed a series of bag/cartridge filters at the upper plant which treats the water from SRC-BA (upper spring), but the Harmsco cartridge filter observed there was not among those approved for surface water treatment. The Harmsco model that has been challenge-tested for sufficient removal of *Cryptosporidium* to meet LT2 treatment requirements is the HC/40-LT2. This model also fits in the Harmsco filter housing he had installed.

Since then, Vic informed us in a phone call on November 11, 2017 that he had purchased another approved Harmsco filter housing to install at the lower treatment plant as well as the correct filter cartridges (HC/40-LT2) for use at both plants. The purchase of approved filters and housings is a great step forward to providing approved surface water treatment.

**Next Steps if Applying Surface Water Treatment** (option “b” above). If Whaleshead chooses to install and maintain approved surface water treatment, there will be interim and long term compliance steps. Below is an overview, though more details and forms may be provided later. The interim requirements will begin if and when Whaleshead submits a corrective action plan (item #1 above) choosing surface water treatment.

Interim requirements:

- Obtain necessary test equipment (pH meter, thermometer, and turbidimeter approved for use with public drinking water).
- Submit monthly operating reports consisting of daily turbidity measurements, filter pressure readings and daily CT calculations, (CT=disinfection concentration of sodium hypochlorite x contact time).
- Provide 0.5 log inactivation of *Giardia* (approved disinfection) at both treatment plants. This level of *Giardia* inactivation requires more chlorine contact time than the 4.0 log inactivation of viruses that Whaleshead is currently achieving. (However, if an approved filter is not in use, the chlorine disinfection requirement for *Giardia* will increase from 0.5 to 1.0 log.) A tracer study will determine the time that chlorine is in contact with the water before each entry point into the distribution lines. This is required to demonstrate adequate treatment. The state circuit rider can perform tracer studies free of charge; we suggest you contact them to set that up.

Requirements when full treatment is installed (not later than June 30, 2019):

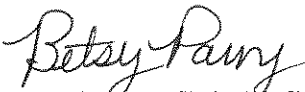
- Obtain a Direct Responsible in Charge (DRC) operator certified at the appropriate level. With cartridge compliance filters, the DRC will likely need Treatment Level 1 and Distribution Level 1 certifications (or a separate person with each). Small systems often contract with a DRC; we can provide you with an example contract. Information on our website (<http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/OPERATORCERTIFICATION/LEVELS1-4/Pages/exams.aspx>) includes how to earn certifications and a list of certified Level 1-4 operators.
- LT2 surface water treatment requirements will apply. You may comply either by conducting one year of raw water coliform monitoring to determine the *Cryptosporidium* bin classification per OAR 333-061-0032, or

permanently providing maximum treatment (a total of 5.5 log removal/ inactivation of *Cryptosporidium*) using an approved UV reactor (attached).

**Funding assistance.** As a community water system, Whaleshead is eligible to apply to the Drinking Water State Revolving Fund (DWSRF), which provides low-cost loans for planning, design and construction of drinking water infrastructure improvements. (See [healthoregon.org/srf](http://healthoregon.org/srf)). The regional manager for such projects in your area is Mary Baker of Business Oregon, Infrastructure Finance Authority (IFA), 541-822-1340, [mary.a.baker@oregon.gov](mailto:mary.a.baker@oregon.gov). Mary may be able to connect you to other possible funding sources as well. Per our state Circuit Rider contract, Civil West Engineering may help prepare such funding applications. I believe you have already worked with Will Dawson at the Civil West office in Coos Bay, 541-266-8601, [wdawson@civilwest.com](mailto:wdawson@civilwest.com).

For questions, you may contact me at (541) 726-2587 ext. 30, [betsy.l.parry@state.or.us](mailto:betsy.l.parry@state.or.us), or Kent Downs at Curry Community Health, 541-425-1607, [downsk@currych.org](mailto:downsk@currych.org). DWS aims to assist water systems in achieving compliance in order to protect public health.

Sincerely,



Betsy Parry, R.E.H.S.  
Drinking Water Services

cc: Brad Daniels, DWS Portland  
Vic Lindsay, Operator, 19921 Whaleshead Rd, Brookings, OR 97415  
Kent Downs, Curry Community Health  
Will Dawson, Civil West Engineering

Enclosures:

- Contact Report from 10-10-17 Site Visit
- Schematic of Whaleshead Drinking Water System
- Groundwater Source Evaluations
- Groundwater source construction standards, excerpt of OAR 333-061-0050
- List of verified cartridge filters
- List of verified UV reactors
- Brochure on Safe Drinking Water Revolving Loan Fund