

# Pipeline

Vol. 25 Issue 4 Fall 2010

OREGON DRINKING WATER NEWS

[www.oregon.gov/DHS/ph/dwp/](http://www.oregon.gov/DHS/ph/dwp/)

## Program update

by Dave Leland

In this issue of *Pipeline*, we cover a variety of topics. We continue to recognize those water suppliers that most recently met criteria for "outstanding performance" based on the results of both their last on-site inspection and their successful compliance status. We also describe the new drinking water compliance status scoring system developed by the U.S. Environmental Protection Agency, and how you can review your system's score online. In addition, we begin to regularly list those water suppliers that are correcting compliance problems under formal agreements or enforcement actions with the department.

Other topics include requirements for certified operator contracts, monitoring under the ground water rules, and a report from the Oregon Department of Environmental Quality on sediment impacts on public water systems in northwest Oregon. We hope you find these articles useful.

*Dave Leland is manager of the Drinking Water Program / 971-673-0415 or david.e.leland@state.or.us*

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## Congratulations to our Outstanding Performers!

In each issue, we plan to list the public water systems that have successfully met the established criteria for outstanding performance since the last issue. These are systems with no significant deficiencies identified, as well as no major violations, and only one monitoring and reporting violation, which has been resolved. Systems are evaluated after their routine Water System Survey, and have their survey frequency (and fee!) reduced from every 3 years to every 5 years. To find out how to qualify, visit [www.oregon.gov/DHS/ph/dwp/docs/sansurveys/OutstandingPerfCriteria.pdf](http://www.oregon.gov/DHS/ph/dwp/docs/sansurveys/OutstandingPerfCriteria.pdf).

Congratulations to the operators of these systems:

Water system name	County served
Blue Moon Mobile Home Park	Josephine
Country View MHP	Josephine
Ridgewood District Improvement Co.	Benton
Rogue River, City of	Jackson
Tigard, City of	Washington
Wallowa, City of	Wallowa

# Drinking Water Program actively enforces safe drinking water requirements

by Brad Daniels

Drinking Water Program staff are regularly in contact with water suppliers and water system operators for a wide variety of reasons.

However, the Drinking Water Program may take action against water suppliers for violating safe drinking water requirements. Action is necessary when water suppliers do not take the appropriate action to protect the health of their water users or to ensure safe drinking water.

Depending upon the circumstances in each case, the Drinking Water Program may sign an agreement or take enforcement action, whatever is necessary to facilitate the water supplier in providing safe drinking water. Common reasons for the Drinking Water Program to take action are when water exceeds maximum contaminant levels, or when a water supplier fails to meet monitoring requirements or correct significant deficiencies.

The Drinking Water Program has taken the following actions this year:

- Signed agreements with six water suppliers:
  - Marshland Water Association
  - Assemblies of God, Oregon District
  - Wasco County, County Fairgrounds water system
  - Dikeside Moorage
  - City of Monroe
  - City of Paisley

- Taken enforcement action against nine water suppliers:
  - Mountain Terrace Mobile Home Park
  - Rose Lodge Water Company, Boulder Creek water system
  - Rose Lodge Water Company, Bear Creek water system
  - Salmon River Water Company
  - Saginaw Park Trust water system
  - Northwest Hazelnut Company
  - Valley Vista Estates Water Improvement District
  - River Bend West Water Association
  - Fish Mill Lodges & RV Park
- Assessed civil penalties totaling \$3,950 against three water suppliers for failure to comply with administrative orders issued by the program:
  - Weiss Estates Water System: \$1,000
  - Rose Lodge Water Company, Boulder Creek water system: \$2,700
  - Saginaw Park Trust water system: \$250

The Drinking Water Program has also revoked the operator certification of two water system operators for misconduct.

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*Brad Daniels is the enforcement coordinator in the Drinking Water Program / 971-673-0407 or [bradley.k.daniels@state.or.us](mailto:bradley.k.daniels@state.or.us)*

# Know your system score?

by Chuck Michael

In the last *Pipeline* it was announced that the Environmental Protection Agency had developed a new compliance scoring system and explained how you can compare your system with others (see “Program update” in *Summer 2010 Pipeline*). In a further effort to show how your system got its score, we have made changes to the violations page for your system. This page now shows the points assigned for each of your violations and the calculation of your system score at the bottom.

The purpose of this scoring system is to help identify which systems need to be addressed by formal enforcement actions. The formula is designed to quickly identify systems that are having health-based problems and get them on a path to resolve the issues causing them.

The points assigned to each violation type are based on the impact to human health. Generally, acute health-based violations are worth 10 points, chronic health-based violations are 5 points, and monitoring and reporting violations are 1 point. The complete list of the points for each violation is on the DWP website. To find this list from on the data online site, start at either the systems violation page or the system

score page (under county section). At the bottom of each of these pages is a “click here” link to more information that includes the list of points for each violation.

In addition to points for each violation, the system score formula takes into account one more item — the age of the oldest violation that has not “Returned to Compliance.” The calculation for this is to subtract the year of the oldest violations from the current calendar year with a maximum value of 5. This value is added to the sum of all the violation points to generate your system score.

The violation and its points are included in your system’s score until it is either Returned to Compliance (RTC) or under a formal enforcement order to address the problem. Once violations are Returned to Compliance, they remain on the Web page and the points are included in the points RTC calculation for five years.

If you have any questions, please contact your regulating agency.

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*Chuck Michael is a compliance officer in the Data Management, Compliance and Enforcement Unit of the Drinking Water Program / 971-673-0420 or [charles.e.michael@state.or.us](mailto:charles.e.michael@state.or.us)*

# Operator Certification Corner – What is a contract operator?

by Dottie Reynolds

Are you a contract operator? Does the Operator Certification Unit in Protection, Planning and Certification have your contract on file? How long has it been since the contract has been updated? Do you know where the contract is if required to present it to state or county personnel?

All contract operators hired by a drinking water system (owner) must present a copy of the contract to the Operation Certification Unit. What is a contract operator? Should you be labeled as a contract operator? A great reference for contract operators is available online at [www.oregonindependentcontractors.com/](http://www.oregonindependentcontractors.com/), which describes the differences between an employee and independent contractor.

The following describes what an independent contractor does:

- Has an assumed business name and a business location. In other words, the contractor runs a business.
- Is free from direction and control, meaning the contractor has a specific project to be completed by a specific date and controls how and when the work will get done. The employer is paying for results, but does not get to control the process.
- Works for multiple customers. A contractor who works for only one customer is hard to distinguish from an employee.
- Has the necessary skills and training to complete the job, and carries required licenses or certifications all being paid for by the contractor as part of his or her business.
- Owns the tools and materials, and purchases all supplies to do the job for the business. Again the control of “how to” belongs to the contractor.

- Works from a written contract, which must be fulfilled. Employees have contracts, but they can walk away from the job. A contractor is on the hook until the work is done, or both sides agree to null and void the contract.
- Is personally liable for accidents and errors. A contractor should carry his own insurance coverage.

If you, as the owner or legal representative of a public water system, have contracted with an operator and do not now have a contract as required under Oregon law, the Operator Certification (Op Cert) Unit has a contract template on its website at <http://oregon.gov/DHS/ph/dwp/certif.shtml>.

Unless as specified in the current contract, all contracts expire every three years per OAR.333.061.0230 (4). All operators who currently do not have a contract on file are requested to complete the contract template available on the Op Cert website by signing and dating it with the owners and submitting it to the Operator Certification Unit for documentation. The owner is required by statute (OAR.333-061-0230 [3]) to submit proof of the contract 30 days from hire or the water system is considered in noncompliance. Please submit your current contract or complete and submit the Op Cert contract template immediately if you have not done so *for each system you are under contract with*. If you have any concerns or questions, please contact the Operator Certification Unit at 971-673-0426.

By Oregon law ORS 670.600, an independently established business must meet three of these five standards:

1. Maintain a business location that is:
  - Separate from the business or work location; or
  - In a part of the home that is used mainly for business.

2. Bear the risk of loss. For example, they:
  - Enter into fixed price contracts;
  - Must correct poor work;
  - Warrant the services provided; or
  - Negotiate indemnification agreements or buy liability insurance, performance bonds, or errors-and-omissions insurance.
3. Provide services on contract for two or more people within 12 months; or advertise or promote the business to get new contracts so they can do the same work for others.
4. Invest in the business by:
  - Buying tools or equipment needed to provide the services;

- Paying for the premises or facilities where the services are provided; or
  - Paying for licenses, certificates or specialized training.
5. Have the right to hire and fire others.
    - A person who files tax returns with a Schedule F and also performs agricultural services they report on a Schedule C does not have to meet the independently established business requirements.

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*Dottie Reynolds is the Operator Certification Unit coordinator in the Drinking Water Program / 971-673-0426 or [dottie.e.reynolds@state.or.us](mailto:dottie.e.reynolds@state.or.us)*

<b>INDEPENDENT CONTRACTOR</b>	<b>EMPLOYEE</b>
Free from direction and control	Means and manner of work are controlled by employer
Does tasks in own way	Does tasks the employer's way
Has necessary skills and training to complete job	Trained by employer to perform job
Has an assumed business name	Works under the employer's assumed business name
Has a business location	Works at employer's business location
Performs services for multiple customers	Works for one employer, may serve that employer's customers
Sets own hours	Works hours set by employer
Determines own price for contracted services	Accepts wage, salary, or commission determined by the employer
Not eligible for employee benefits	May be covered by minimum wage, overtime, safety, unemployment, and workers' comp
Directly affected by business profit or loss	Not directly affected by employer's profit or loss
Owns equipment and tools used to complete job	Employer provides and controls equipment and tools
Purchases materials and supplies needed to do job	Employer purchases materials and supplies
Personally liable for errors and/or accidents	Employer liable for employee errors and/or accidents
Files self-employment taxes; receives a Form 1099-MISC	Does not file self-employment taxes; receives a Form W-2 from employer
Has right to hire and fire workers	Is hired and/or fired by employer
Must legally complete each contract	May quit working for an employer at any time

# Triggered Monitoring under the Ground Water Rule

## Frequently asked questions

by Betsy Parry

### **Question 1: What is Triggered Monitoring?**

Also called Triggered Source Sampling, this requirement is to test the untreated source water (from a well or spring) for coliform when “triggered.” The trigger is a positive (present) result from a routine coliform sample in the distribution system. Groundwater systems are subject to the Triggered Monitoring requirement under the Ground Water Rule unless they are implementing the Compliance Monitoring option.

### **Question 2: Our groundwater system does not disinfect the water (no chlorine, UV, etc.). What do the Triggered Monitoring requirements mean for us?**

Not much change from what you are doing now. For systems less than 1,000 in population, if a routine distribution sample is positive, you will need to make sure that one of the already-required repeat samples comes directly from the groundwater source (well or spring). The “repeat” sample taken at the source will also serve as a “triggered” sample for the Ground Water Rule. (See how to label this double-duty sample for the lab at <http://oregon.gov/DHS/ph/dwp/labs.shtml>.) Unlike systems that disinfect, your system does not need to take **additional** source sample(s) because your distribution samples have the same microbial content as the source water.

For systems >1,000, it is a little different. Their triggered source samples cannot serve “double duty”; they must be taken in addition to the repeat distribution samples required (that’s three repeats for systems >1,000). Update the coliform sampling plan accordingly.

### **Question 3: Our groundwater system disinfects and is not conducting Compliance Monitoring. What do the Triggered Monitoring requirements mean for us?**

If a routine coliform test comes back positive, your system needs to collect:

1. An untreated triggered source sample within 24 hours from each groundwater source in use at the time the routine positive sample was collected. (*This is a new requirement that came into effect with the Ground Water Rule.*)
2. The repeat samples from the distribution system within 24 hours that have always been required following a positive result (*from the Total Coliform Rule*). Be careful filling out the lab forms so it will be clear that your system has submitted all types of follow-up samples (see instructions at the website mentioned above).
3. Extra routine samples the following month, as previously required after a positive distribution sample (*from the Total Coliform Rule*). For most groundwater systems, the number of routine samples required the following month will be five.

Your Coliform Sampling Plan needs to include the triggered source samples, so whoever receives the positive result from a routine coliform sample will know what additional samples they need to take right away. See the revised Coliform Sampling Plan template for systems serving up to 1,000 customers at <http://oregon.gov/DHS/ph/dwp/docs/fact/colisamp.doc>.

**Question 4: We've never had a positive coliform sample in the distribution, so I doubt we'll be taking triggered samples. Are we off the hook from any new requirements?**

Even if no source samples are triggered, the Ground Water Rule requires systems that disinfect the water in any way — either with oxidizing agents (e.g., chlorine) or ultraviolet light — to submit at least one “raw” untreated water sample from each source per year, starting in 2010. The Ground Water Rule calls this type of periodic source sampling (that is not tied to another test result) “Assessment Monitoring.”

**Question 5: Can a triggered source sample count as the required annual or monthly source sample (Assessment Monitoring)?**

Yes.

**Question 6: What happens if a triggered source sample (that is, from the well or spring) comes back positive for total coliform?**

As in the past, the operator may want to disinfect the well or spring (for example by shock chlorination), utilizing professional judgment when applying the procedure. If there is a consistent problem with total coliform, the Department of Human Services/Oregon Health Authority Drinking Water Program (DHS/OHA-DWP) may ask the water system to meet the standard of 4-log inactivation of viruses.

**Question 7: What happens if a triggered source sample comes back positive for fecal coliform/E. coli?**

Unless corrective action is taken immediately, the water system must collect five additional or “confirmation” source samples within 24 hours.

If any one of these five source samples is fecal coliform/*E. coli*-positive, the system must issue a Tier One (i.e., “Boil Water”) Notice within 24 hours and take corrective action. In some cases, the “Boil Water” order could be lifted in a short time frame. For example: a system could increase the chlorine dosage so that it meets the CT for 4-log viral inactivation and show that the increased chlorine residual is present throughout the distribution system. This could take less than a day (or even an hour) for a system with little distribution piping (such as for a transient system). Such a system would also need to start Compliance Monitoring from this point forward as part of corrective actions. However, if the source well (or spring) does not meet current construction standards, corrective action could require reconstructing the source, or switching to a new source. Please consult with DHS/OHA-DWP geology staff in the Springfield Office (8 a.m.- 5 p.m. PT, M-F) for details regarding this issue (phone 541-726-2587).

If these additional samples confirm the presence of *E. coli* at the source, the water system may stop collecting triggered source samples during the period that they are implementing corrective action. Why? At that point, the sampling has already found what we were concerned about — possible fecal contamination in the untreated source water — so there is no need to continue checking its microbial content. The system should keep taking routine coliform samples in the distribution system, as always.

If any (or all) of the above five additional samples test positive only for total coliform (not *E. coli*), **see the answer to Question 5 above**. The system would continue its routine coliform sampling in the distribution system, and take a source sample again if “triggered” by a positive distribution sample taken at another time.

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**Question 8: I took several coliform samples in the distribution system, and more than one came back positive. How many triggered source samples do I need to take?**

You need to take one triggered sample from all active sources each time a routine sample tests positive. If more than one positive routine sample was taken on the same day, you still only need to collect one triggered sample per active source.

An illustration: In March, your routine sample tests positive for total coliform, and you quickly take the required repeat samples and triggered

source sample(s). As has been the case all along, that positive routine sample from the distribution means you will need to take five “extra” or “temporary” routine samples the following month. In April, more than one of those temporary routine samples comes back positive for total coliform. At this point, you do not need to take any more repeats (the presence of total coliform in the distribution has already been confirmed), but you need to take another source sample because it was “triggered” again by the newer positive distribution samples.

**A Glossary of Source Sampling under the Ground Water Rule**

The Ground Water Rule defines specific terms for types of “raw” or untreated groundwater sampling. For more background, see the *Winter 2009 Pipeline* article, “Get Ready for the Ground Water Rule,” at our program’s Ground Water Rule website, [www.oregon.gov/DHS/ph/dwp/gwr.shtml](http://www.oregon.gov/DHS/ph/dwp/gwr.shtml).

**Triggered Monitoring:** See Question 1 in the Triggered Monitoring article.

**Assessment Monitoring:** This is what the Ground Water Rule calls ongoing, periodic sampling of the source water that is not “triggered” by another test result.

**Annual Assessment Monitoring:** The Ground Water Rule requires systems that disinfect the water in any way — either with oxidizing agents (e.g., chlorine) or ultraviolet light — to submit at least one “raw” untreated water sample from each source per year. (A “triggered” source sample can meet this requirement for that calendar year.)

**12-Month Assessment Monitoring:**

Groundwater sources that are determined to be at higher risk of fecal contamination are required to take a series of 12 monthly source samples, to determine whether there is any fecal connection at present. The DWP will notify water systems individually if monthly monitoring will be required.

**Additional or Confirmation Monitoring:** After one *E. coli*-positive result from the source, fecal contamination is confirmed by taking five additional source samples within 24 hours, unless the system pursues corrective action immediately.

**Compliance Monitoring:** In lieu of triggered monitoring, a groundwater system that provides 4-log treatment (99.99 percent inactivation or removal) of viruses can choose the compliance monitoring option to meet GWR requirements. A system must request this option and submit engineering calculations to DWP that demonstrate 4-log virus treatment before the first user. If the request is approved, the DWP will assign a minimum chlorine residual that the system must maintain and monitor at the entry point.

**Question 9: I took a source sample at the same time as a routine distribution sample that tested positive for total coliform. Can that source sample count as the triggered source sample?**

Yes, as long as the source sample was taken no earlier than the same day as the positive sample.

**Question 10: Is representative sampling allowed to meet the triggered monitoring requirements?**

Representative sampling may be allowed for larger systems with multiple groundwater sources and/or distribution system pressure zones only if DWP has already approved the system's sampling plan. See other links on our program's Ground Water Rule Web page online at [www.oregon.gov/DHS/ph/dwp/gwr.shtml](http://www.oregon.gov/DHS/ph/dwp/gwr.shtml).

**Question 11: We purchase water from another water system. If our routine coliform sample(s) test positive, who takes the triggered sample at the source(s)?**

The wholesaling water system must collect a triggered sample from each groundwater source that supplies water to the purchasing system (unless the wholesaling system is conducting Compliance Monitoring). The Ground Water Rule requires specific communications between purchasing and wholesaling systems so that these requirements are met (see related *Summer 2010 Pipeline* article). These triggered sampling requirements should be spelled out in both systems' Coliform Sampling Plans.

This FAQ sheet is online at the DWP's Ground Water Rule Web page.

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*Betsy Parry is a natural resource specialist with the Drinking Water Program in Springfield / 541-726-2587 ext. 30, or [betsy.l.parry@state.or.us](mailto:betsy.l.parry@state.or.us).*

## Meeting the new annual source sampling requirement for groundwater systems that disinfect

Most groundwater systems that disinfect are required to take an annual sample at each of their active groundwater sources (see *Spring 2010 Pipeline* article). This is approximately 900 water systems.

As a reminder, this annual source sampling requirement:

- Applies to all groundwater systems that treat with chlorine or other oxidant (ozone), or use ultraviolet light, **and** are not verifying their 4-log treatment of viruses through compliance monitoring;
- Must be taken at a sample tap installed at each well or spring in use, prior to any treatment;
- May be satisfied by a triggered source water sample (taken after a routine positive in the distribution system) during the same calendar year.

If you have not already collected this annual source sample, please do so *before the end of 2010*.

You can check whether your system has collected this sample by using the "Data On-line" feature on DWP's website (<http://oregon.gov/DHS/ph/dwp/index.shtml>). At Data Online, look up your water system by name or by ID number, then click on "Coliform Results" at the bottom of your system's page. Source samples will be indicated by the "SRC" code under the "Facility" heading.

The following DEQ news release from July 2010 is being reprinted to provide information about sediment impacts on public water systems in northwest Oregon.

## DEQ report looks at sediment impacts on public water systems in coast range

### Analysis points to long-term challenges, concerns for several public water systems in Western Oregon

An Oregon Department of Environmental Quality analysis of eight public water systems in Oregon's Coast Range concludes that there may be long-term concerns for the functioning of some of the systems due to sediment runoff within the system's watershed areas.

The report, **Turbidity Analysis for Oregon Public Water Systems: Water Quality in Coast Range Drinking Water Source Areas**, is available on DEQ's drinking water protection webpage at [www.deq.state.or.us/wq/dwp/dwp.htm](http://www.deq.state.or.us/wq/dwp/dwp.htm). Scroll down to "statewide projects" and click on the report title name.

DEQ embarked on the study shortly after a series of large storms and landslides hit the Oregon Coast in 2006 and 2007. Both DEQ and the Oregon Department of Human Services had concerns about the resiliency of public water systems that rely on surface waters prone to heavy rains and landslides. Landslides can deposit large amount of sediment that can increase water turbidity (cloudiness) and lower the quality of drinking water obtained and treated by these water systems. Increasing levels of turbidity may also interfere with public water system operations, can increase operation costs for communities and can cause shutdowns.

High-turbidity levels in the waters these systems rely on may stem from natural phenomena such as stream bank erosion and slides, or land-use activities including logging, farming, road building and residential development.

"Regardless of the source of turbidity, watershed protection and restoration activities can reduce unacceptable levels of sediment deposited in public water system sources and can reduce the cost of drinking water treatment," said Joshua Seeds, the report's author. Seeds added that

more studies are needed to verify or refute any correlations between land uses and turbidity.

Seeds said DEQ evaluated as case studies eight public water systems in the North and Middle Oregon Coast Range and used available turbidity data to analyze long-term trends. The analysis concluded that there are "long-term concerns about system viability or increased treatment costs" at five systems: Arch Cape Water District in Clatsop County, and the cities of Astoria, Carlton, Siletz and Yamhill, based on large number of high-turbidity days and/or increasing numbers of high-turbidity days recorded in daily water samples for these systems. The Hillsboro-Cherry Grove water system and the cities of Forest Grove and Falls City have fewer high-turbidity days.

Climate change is projected to cause drier, hotter summers and wetter, warmer winters in Oregon. This could result in lower water availability in the summer and more floods and erosion in the winter, increasing costs and risks of water system shutdowns or damage to system facilities.

Seeds stressed that drinking water for all systems studied is safe to drink.

"These systems generally have high-quality source water, and treatment removes the fine sediment and pathogens, if any," he said. "If turbidity becomes too high to treat, these systems will shut down and use stored water until conditions improve. These systems follow all public drinking water regulations implemented by the Oregon Department of Human Services' Drinking Water Program."

DEQ will use this analysis to work with other agencies and public water systems to reduce the

*Continued on next page*

risks to public health. It will also use the study to design future work to identify the causes of increasing turbidity in public water systems.

DEQ contact information:

- Joshua Seeds, Water Quality Analyst / 503-229-5081
- Gene Foster, Manager, Watershed Management / 503-229-5325

## MEETING CALENDAR

### Drinking Water Advisory Committee

Oregon Health Authority  
Diane Weis / 971-673-0427

January 19, 2011  
April 20, 2011

All meetings are held at the Public Utility Commission Office, 550 Capitol St., N.E., Salem, Oregon, 97310

### Cross Connection Advisory Board

Go to: [www.oregon.gov/DHS/ph/crossconnection/docs/AdvisoryBoardSchedule.pdf](http://www.oregon.gov/DHS/ph/crossconnection/docs/AdvisoryBoardSchedule.pdf)

### Oregon Environmental Services Advisory Council

Go to: [www.oesac.org/meeting\\_schedule](http://www.oesac.org/meeting_schedule)

## TRAINING CALENDAR

### CEUs for Water System Operators

Check [www.oesac.com](http://www.oesac.com) for new offerings approved for drinking water

#### OAWU

503-873-8353

Dec. 7-9	12 <sup>th</sup> Annual End of Year Operator's Conference
Dec. 15	Confined Space
Jan. 12	Well Maintenance
Jan. 18	Control Valves by GC Systems
Feb. 8	Water Meters
Feb. 10	Water Meters
Feb. 28-Mar. 4	33rd Annual Management & Technical Conference

Mar. 8	Membrane Solutions for Regulatory Compliance
Mar. 9	Membrane Solutions for Regulatory Compliance

### Backflow Management Inc.

503-255-1619

Dec. 15	Managing and Owning a Public Water System
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### Cross Connection/Backflow Courses

Backflow Management Inc. (B)  
503-255-1619

Clackamas Community College (C)  
503-594-3345

EWEB/Water Management Services (E)  
541-685-7157

### Backflow Assembly Tester Course

Dec. 6-10	Oregon City (C)
Dec. 6-10	Portland (B)
Jan. 10-14	Eugene (E)
Jan. 11-Mar.3	Eugene (E)
Feb. 14-18	Portland (B)
Mar. 14-18	Oregon City (C)

### Backflow Assembly Tester Recertification

Dec. 14	Eugene (E)
Jan. 18	Eugene (E)
Jan. 20-21	Oregon City (C)
Feb. 4	Redmond (B)
Feb. 14	Oregon City (C)
Feb. 14-15	Eugene (E)

*Continued on next page*

Oregon Health Authority  
 Drinking Water Program  
 P.O. Box 14450  
 Portland, OR 97293-0450

**Backflow Assembly Tester Recertification (continued)**

Feb. 16-18	Eugene (E)	Mar. 16	Redmond (B)
Feb. 17-18	Oregon City (C)	Mar. 17	Portland (B)
Feb. 23-24	Portland (B)		
Feb. 24	Portland (B)		
Mar. 4	Oregon City (C)		
Mar. 4	Portland (B)		

**Cross Connection Inspector Recertification**

Feb. 16	Union (B)
Mar. 14	Portland (B)

*PIPELINE is published quarterly free of charge by the staff of the Oregon Health Authority, Drinking Water Section, 800 N.E. Oregon Street, Portland OR 97232, (Telephone: 971-673-0427). Periodicals postage paid at Salem, OR.*

*POSTMASTER: Send address changes to PIPELINE, P.O. Box 14450, Portland, OR 97293-0450. ISSN: 1072-4028*

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