PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Randy Leonard, Commissioner
David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandonline.com/water

An Equal Opportunity Employer

August 2, 2012

Dear Customer:

On Monday, August 6th, the Portland Water Bureau will begin blending a small portion of water from the Columbia South Shore Well Field into the distribution system as part of a maintenance operation. The groundwater supply is a complex system composed of pumps, chemical feed systems, electronic controls, and other appurtenances; it must be operated regularly to identify maintenance needs and issues. By doing this maintenance operation, the bureau will ensure the reliability of the system when needed, either in an emergency or as part of seasonal supply.

The rate of groundwater pumping will vary throughout each day. Groundwater will be pumped at a rate of approximately 18 million gallons of groundwater per day (MGD) during work hours, but no pumping will occur at night. The rate of use may decrease toward the end of the operation. The resultant average contribution of groundwater to the system will be approximately 3% or less of the total daily water demand. We will be blending this groundwater with Bull Run water. Due to the small amount we are adding, we do not expect there to be a large change in water quality. Page two of this notification outlines the expected quality of the blended water.

- **The groundwater maintenance operation should be completed by August 24, 2012.**
- **If you have any questions, please do not hesitate to call the Water Line at 503-823-7525.**
- **If we should direct this notification to someone else, let me know and I will correct our records.**

For more information on Portland Water Bureau operations, visit www.portlandoregon.gov/water.

Sincerely,

Victoria Mercer
Water Line

The City of Portland will make reasonable accommodation for people with disabilities. Please notify us no less than five (5) business days prior to the event by phone 503-823-7404, by the City's TTY at 503-823-6868, or by the Oregon Relay Service at 1-800-735-2900.

Water Quality of Groundwater and Bull Run Water

The table below shows water quality data for groundwater wells and Bull Run from past results. The calculated blend is based on a 15% groundwater contribution within a total system demand of 120 MGD (million gallons/day), representing the maximum groundwater contribution to the system during the operation (the average contribution will be 3%, as stated on the previous page). During the groundwater maintenance operation, wells will run at approximately 18 MGD during the day and be turned off after working hours. This may result in water quality fluctuations throughout the day. Users will experience water quality ranging between the water quality of 100% Bull Run and the calculated blend of groundwater and Bull Run water below. The actual results may differ from what is shown below based on changes in the wells selected during the course of operations and the actual water demand. Where a value is preceded by a less than symbol (<), the substance was not present or was present below the method reporting limit (MRL) of the prescribed method. Results are in mg/L (parts per million) unless otherwise noted.

Substance	100% Groundwater	100% Bull Run	Calculated Blend	EPA/OHA-DWP Standard
Field Measurements				
Temperature (degrees C)	13.4	13.5	**13.5**	NA
pH (standard units)	8.0	8.0	**8.0**	6.5 - 8.5 (S)
Physical Characteristics				
Color (color units)	<5	8	**7**	15 (S)
Specific Conductance (μmhos/cm)	199	34	**59**	NA
Suspended Solids	<0.5	<0.5	**<0.5**	NA
Total Dissolved Solids	135	26	**42**	500 (S)
Turbidity (NTU)	0.14	0.33	**0.30**	5
Nutrients				
Nitrate Nitrogen as N	0.09	<0.01	**0.01**	10
Nitrite Nitrogen as N	<0.005	<0.005	**<0.005**	1
Reactive Phosphorus as P	0.122	<0.003	**0.018**	NA
Silica	18.4	4.4	**6.5**	NA
Total Organic Carbon	0.38	0.82	**0.75**	NA
Anions and Cations				
Alkalinity as $CaCO_3$	93	11	**24**	NA
Calcium	18	1.8	**4.0**	NA
Chloride	2.5	2.4	**2.4**	250 (S)
Fluoride	0.13	<0.05	**<0.05**	4.0
Hardness as $CaCO_3$	82	7.5	**19**	250 (S)
Magnesium	8.6	0.7	**1.9**	NA
Sodium	8.8	3.6	**4.4**	NA
Sulfate	4.1	<0.5	**0.6**	250 (S)
Metals				
Iron	0.048	0.071	**0.068**	0.3 (S)
Manganese	0.107	0.019	**0.032**	0.05 (S)
Microbiological Contaminants				
Total Coliform (MPN/ 100mL)	<1	<1	**<1**	90%<100 for source water
All 59 VOCs (μg/L)	<MRL (varies)	<MRL	**<MRL**	varies

The groundwater results are calculated based on recent results from each well. The Bull Run results are from August 2011 Triannual testing and other more recent results. An (S) indicates a secondary standard.