

TVWD Drinking Water Supplies: Water Quality Summary

Inorganic Chemicals

Contaminant (results measured mg/L)	MCL	Portland Water Supply			Willamette Water Supply WTP in Wilsonville				Joint Water Commission WTP in Hillsboro	
		MRL	Bull Run April 2010	Wellfield October 2009	January 2009 MRL	January 2009	January 2010 MRL	January 2010	MRL	February 2010
Antimony Total	0.006	0.002	<MRL	<MRL	0.001	ND	0.001	ND	0.001	ND
Arsenic	0.01	0.0005	<MRL	0.00149	0.001	ND	0.001	ND	0.003	ND
Barium	2.0	0.00005	0.00079	0.013	0.001	0.00487	0.001	0.00429	0.05	ND
Beryllium Total	0.004	0.00002	<MRL	<MRL (8/09)	0.0005	ND	0.002	ND	0.002	ND
Bromate	Not Regulated	---	---	---	0.5	ND	0.005	ND	---	---
Cadmium	0.005	0.001	<MRL	<MRL	0.005	ND	0.001	ND	0.0005	ND
Chromium	0.1	0.005	<MRL	<MRL	0.0005	ND	0.002	ND	0.02	ND
Cyanide	0.2	0.01	<MRL (7/09)	<MRL (8/09)	0.005	ND	0.005	ND	0.02	ND
Fluoride	4.0	0.05	<MRL	0.13	0.1	ND	0.1	ND	0.5	ND
Lead	0.015*	0.001	<MRL	0.005	0.001	ND	0.001	ND	0.002	ND
Mercury	0.002	0.0002	<MRL	<MRL	0.0002	ND	0.0002	ND	0.0003	ND
Nickel	Not regulated	0.005	<MRL	<MRL	0.05	ND	0.05	ND	0.01	ND
Nitrate	10.0	0.01	0.03	0.18	0.1	0.64	0.1	0.8	0.5	0.8
Nitrate-Nitrite	10.0	0.01	0.03	0.18	0.1	0.64	0.1	0.8	0.6	0.8
Nitrite	1.0	0.005	<MRL	<MRL	0.1	ND	0.1	ND	0.1	ND
Selenium	0.05	0.005	<MRL	<MRL	0.0005	ND	0.001	ND	0.005	ND
Sodium	Not Regulated	0.5	2.5	15.03	1.0	8.79	1.0	10.5	0.1	10.3
Sulfate	250.0	1.2	<MRL	3.4	1.0	11.9	1.0	14.2	5.0	14 (2/09)
Thallium Total	0.002	0.00002	<MRL	<MRL (8/09)	0.001	ND	0.001	ND	0.001	ND

*Lead does not have MCLs, only action levels. An action level is the concentration that if exceeded, triggers treatment or other requirements that a water system must follow.

Regulated Volatile Organic Chemicals

Contaminant (results measured mg/L)	MCL	Portland Water Supply			Willamette Water Supply			Joint Water Commission	
		MRL	Bull Run April 2010	Wellfield October 2009	RL	January 2009	January 2010	MRL	February 2010
1,1 - Dichloroethylene	0.007	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,1,1 - Trichloroethane	0.2	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,1,2 - Trichloroethane	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,2 Dichloroethane	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,2 Dichloropropane	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,2,4 - Trichlorobenzene	0.07	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Benzene	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND

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		MRL	Bull Run April 2010	Wellfield April 2006	RL	January 2009	January 2010	MRL	February 2010
Carbon Tetrachloride	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Cis - 1,2 - Dichloroethylene	0.07	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Dichloromethane	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Ethylbenzene	0.7	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Monochlorobenzene	0.1	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
O-Dichlorobenzene	0.6	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
P-Dichlorobenzene	0.075	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Styrene	0.1	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Tetrachloroethylene	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Toluene	1.0	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Total Xylenes	10.0	0.0015	<MRL	<MRL	0.001	ND	ND	0.0015	ND
Trans - 1,2 - Dichloroethylene	0.1	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Trichloroethylene	0.005	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Vinyl Chloride	0.002	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND

Unregulated Volatile Organic Chemicals

Contaminant (results measured mg/L)	Portland Water Supply			Willamette Water Supply			Joint Water Commission	
	MRL	Bull Run April 2010	Wellfield October 2009	RL	January 2009	January 2010	MRL	February 2010
Bromobenzene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
BromodichloroMethane	0.0005	<MRL	0.55	0.0005	0.00096	0.0017	0.0005	0.0018
Bromoform	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Bromomethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Chloroethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
Chloroform	0.0005	8.43	0.63	0.0005	0.00195	0.00541	0.0005	0.0064
Chloromethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
2 - Chlorotoluene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
4 - Chlorotoluene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
DibromochloroMethane	0.0005	<MRL	<MRL	0.0005	0.00056	0.00069	0.0005	ND
Dibromomethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,3 - Dichlorobenzene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,1 - Dichloroethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,3 - Dichloropropane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
2,2 - Dichloropropane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,1 - Dichloropropene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
cis -1,3 - Dichloropropene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,1,1,2 - Tetrachloroethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND

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	MRL	Bull Run April 2010	Wellfield October 2009	RL	January 2009	January 2010	MRL	February 2010
1,1,2 - Tetrachloroethane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,2,3 - Trichlorobenzene	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND
1,2,3 - Trichloropropane	0.0005	<MRL	<MRL	0.0005	ND	ND	0.0005	ND

Synthetic Organic Chemicals

Contaminant (results measured mg/L)	MCL	Portland Water Supply			Willamette Water Supply				Joint Water Commission	
		MRL	Bull Run July 2009	Wellfield October 2009	January 2009 RL	January 2009	January 2010 RL	January 2010	MRL	May 2010
2,4 - D	0.07	0.0001	<MRL	<MRL	0.0001	ND	0.0001	ND	0.0002	ND
2,4,5 - TP Silvex	0.05	0.0002	<MRL	<MRL	0.0001	ND	0.0001	ND	0.0004	ND
Di(2-ethylhexyl)adipate	0.4	0.0006	<MRL (4/09)	<MRL	0.0006	ND	0.0006	ND	0.001	ND
Alachlor (Lasso)	0.002	0.002	<MRL (10/09)	<MRL	0.0002	ND	0.00005	ND	0.0004	ND
Atrazine	0.003	0.00005	<MRL (4/09)	<MRL	0.0001	ND	0.00005	ND	0.0002	ND
Benzo(A)Pyrene	0.0002	0.00002	<MRL (4/09)	<MRL	0.00002	ND	0.00002	ND	0.00004	ND
BHC - gamma (Lindane)	0.0002	0.00001	<MRL	<MRL	0.00002	ND	0.00001	ND	0.00002	ND
Carbofuran	0.04	0.0005	<MRL	<MRL	0.000	ND	0.0005	ND	0.004	ND
Chlordane	0.002	0.0001	<MRL	<MRL	0.0001	ND	0.0001	ND	0.00004	ND
Dalapon	0.2	0.001	<MRL	<MRL	0.001	ND	0.001	ND	0.002	ND
Dibromo chloropropane	0.0002	0.00001	<MRL	<MRL	0.00002	ND	0.00001	ND	0.00002	ND
Dinoseb	0.007	0.0002	<MRL	<MRL	0.0001	ND	0.0001	ND	0.0004	ND
Diquat	0.02	0.0004	<MRL	<MRL	0.0004	ND	0.0004	ND	0.0004	ND
Endothall	0.1	0.005	<MRL	<MRL	0.009	ND	0.005	ND	0.01	ND
Endrin	0.002	0.00001	<MRL	<MRL	0.00001	ND	0.00001	ND	0.00002	ND
Ethylene Dibromide (EDB)	0.00005	0.00001	<MRL	<MRL	0.00001	ND	0.00001	ND	0.00001	ND
Glyphosate	0.7	0.006	<MRL	<MRL	0.006	ND	0.006	ND	0.01	ND
Heptachlor Epoxide	0.0002	0.00001	<MRL	<MRL	0.00001	ND	0.00005	ND	0.00002	ND
Heptachlor	0.0004	0.00001	<MRL	<MRL	0.00001	ND	0.00003	ND	0.00004	ND
Hexachlorobenzene (HCB)	0.001	0.00005	<MRL (4/09)	<MRL	0.0001	ND	0.00005	ND	0.0001	ND
Hexachloro cyclopentadiene	0.05	0.0001	<MRL (4/09)	<MRL	0.0001	ND	0.00005	ND	0.0002	ND
Methoxychlor	0.04	0.00005	<MRL	<MRL	0.0001	ND	0.0001	ND	0.0002	ND
Pentachlorophenol	0.001	0.00004	<MRL	<MRL	0.00004	ND	0.001	ND	0.00008	ND
Di(2-ethylhexyl)phthalate	0.006	0.0006	<MRL (4/09)	<MRL	0.0001	ND	0.0006	ND	0.0013	ND
Picloram	0.5	0.0001	<MRL	<MRL	0.0001	ND	0.0004	ND	0.0002	ND
Polychlorinated Biphenyls	0.0005	0.00008	<MRL	<MRL	0.0006	ND	0.00008	ND	0.00002	ND
Simazine	0.004	0.00005	<MRL (4/09)	<MRL	0.0002	ND	0.00005	ND	0.0001	ND

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		MRL	Bull Run July 2009	Wellfield October 2009	January 2009 RL	January 2009	January 2010 RL	January 2010	MRL	May 2010
Toxaphene	0.003	0.0005	<MRL	<MRL	0.0001	ND	0.0005	ND	0.0001	ND
Vydate (Oxymyl)	0.2	0.0005	<MRL	<MRL	0.00002	ND	0.0005	ND	0.004	ND

Unregulated Synthetic Organic Chemicals

Contaminant (results measured mg/L)	Portland Water Supply			Willamette Water Supply		Joint Water Commission	
	MRL	Bull Run July 2009	Wellfield October 2009	MRL	January 2010	MRL	October 2008
Butylbenzyl phthalate	0.0005	<MRL (4/09)	<MRL	0.0005	ND	0.0002	ND in raw water
Di-n-butyl phthalate	0.001	<MRL (4/09)	<MRL	0.001	ND	---	---
Di-n-octylphthalate	0.0001	<MRL (4/09)	---	---	---	---	---
Diethyl phthalate	0.0005	<MRL (4/09)	<MRL	0.0005	ND	0.00004	---
Dimethyl phthalate	0.0005	<MRL (4/09)	<MRL	0.0005	ND	0.00002	---
Butachlor	0.00005	<MRL (4/09)	<MRL	0.0005	ND	0.0001	ND
Metolachlor	0.00005	<MRL (4/09)	<MRL	0.0005	ND	0.0002	ND
Metribuzin	0.00005	<MRL (4/09)	<MRL	0.00005	ND	0.0001	ND
Aldrin	0.00001	<MRL	<MRL	0.00005	ND	0.0001	ND
Dieldrin	0.00001	<MRL	<MRL	0.00001	ND	0.0001	ND
Propachlor	0.00005	<MRL (4/09)	<MRL	0.00005	ND	0.0001	ND
Dicamba	0.00008	<MRL	<MRL	0.0002	ND	0.0005	ND
3 - Hydroxycarbofuran	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Aldicarb	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Aldicarb sulfone	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Aldicarb sulfoxide	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Carbaryl	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Methiocarb	0.0005	<MRL	<MRL	0.0005	ND	0.000002	---
Methomyl	0.0005	<MRL	<MRL	0.0005	ND	0.004	ND
Paraquat	0.002	<MRL	<MRL	0.002	ND	---	---

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Microscopic Examination

	Portland Water Supply				Willamette Water Supply				Joint Water Commission	
	Bull Run Untreated Water June 2010		Wellfield		Raw Water January 2009		Raw Water January 2010		Untreated Water May 2006	
	Giardia	Crypto sporidium oocysts	Giardia	Crypto sporidium oocysts	Giardia	Crypto sporidium oocysts	Giardia	Crypto sporidium oocysts	Giardia	Crypto sporidium oocysts
Empty Cysts (no internal structure)	NA	NA	---	---	ND	ND	ND	ND	1	ND: ARBL
Cysts/oocysts (amorphous internal structure (E))	NA	NA	---	---	ND	ND	ND	ND	2	ND: ARBL
Cysts/oocysts (identifiable internal structure (F))	NA	NA	---	---	ND	ND	ND	ND	ND: ARBL	ND: ARBL
Total Cysts/ oocysts in sample	<2 / 100 liters	<2 / 100 liters	---	---	ND <9.8/100 LITER	ND <9.8/100 LITER	ND <9.8/100 LITER	ND <9.8/100 LITER	3	ND: ARBL
Positive Internal Staining (B)	NA	NA	---	---	---	---	---	---	0	0
Positive Nuclei Staining (C)	NA	NA	---	---	---	---	---	---	0	0

Microbiological

Contaminant	MCL	Portland Water Supply		Willamette Water Supply		Joint Water Commission
		Bull Run Daily 2010	Wellfield October 2009	Daily 2009	Daily 2010	Weekly
E. coli	Confirmed Presence	Absent	Absent	Absent	Absent	Absent
Total Coliform	See below*	Absent	Absent	Absent	Absent	Absent

*No more than 1 positive sample if less than 40 samples are taken per month, otherwise no more than 5% of samples can be positive

Dioxin (Results Measured in mg/L)

MCL	Portland Water Supply			Willamette Water Supply				Joint Water Commission
	MRL	Bull Run	Wellfield	January 2009 RL	January 2009	January 2010 RL	January 2010	
0.00000003	---	---	---	0.000000019	ND	0.000000050	ND	---

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Secondary Contaminants

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		MRL	Bull Run April 2010	Wellfield October 2009	RL	January 2010	MRL	May 2010
Chloride	250.0	0.6	2.6	8.7	---	---	0.6	4
Hardness	250.0	0.1	5.9	77	0.1	21.3 – 36.2	0.1	32
Aluminum	0.05-0.20	0.005	0.0318	0.02	0.01	ND	0.005	ND
Iron	0.3	0.2	<MRL	<MRL	0.100	ND	0.2	ND
Manganese	0.05	0.00005	0.00173	<MRL of 0.03	0.002	ND	0.00005	ND
Silver	0.1	0.005	<MRL	<MRL	0.001	ND	0.005	ND
Zinc	5.0	0.1	<MRL	<MRL	0.010	ND	0.1	ND

Radionuclides

Contaminant (results measured in pCi/L*)	MCL	Portland Water Supply		Willamette Water Supply February 2008	Joint Water Commission February 2003
		MRL	Wellfield August 2009		
Gross Alpha	15.0	1.2	0.11	1.10	ND
Combined Radium (226/228)	5.0	0.69	<MRL	0.666	1.21
Combined Uranium (µg/L)	0.03	0.7	<MRL (8/08)	0.0000842	ND
Radon	Not Regulated	54	290	---	---

* Picocuries per liter (pCi/L) is a measure of radioactivity.

Extractable Organics

Contaminant (results measured mg/L)	Portland Water Supply			Willamette Water Supply		Joint Water Commission		
	MRL	Bull Run April 2009	Wellfield October 2009	MRL	January 2010	MRL	May 2010	Raw water, October 2008
Dimethoate	0.0001	<MRL	<MRL	0.0001	ND	0.0007	ND	---
Disulfoton	---	---	---	0.0006	---	0.000002	---	ND
Malathion	0.0001	<MRL	---	0.0006	---	0.00002	---	ND

All sources show results taken from the entry point into the distribution system.

Key:

<Less Than

---The contaminant was not tested or was not reported to TVWD.

µg/L.....Micrograms per Liter

mg/L.....Milligrams per Liter

MCL.....Maximum Contaminant Level. The highest level of a contaminant U.S. EPA allows in drinking water.

MRL/RL.....Method Reporting Limit or Reporting Limit. The minimum amount detected by the testing equipment.

ND: ARBL.....Not Detected as Reported by Lab. These values were reported as non-detected, but TVWD does not know the Method Reporting Limit.

ND.....Not Detected at the Method Reporting Limit

1 ppb or 0.001 ppm.....One part per billion. One part of a particular contaminant is present for every 1 billion (1,000,000,000) parts of water.

1 ppb is equivalent to 1 second in 32 years, 1 cent in \$10 million and 1 inch in 16,000 miles.

1 ppm.....One part per million. One part of a particular contaminant is present for every 1 million (1,000,000) parts of water.

1 ppm is equivalent to 1 minute in 2 years, 1 cent in \$10,000 and 1 inch in 16 miles.

Bull Run.....Unless otherwise noted, data provided for Bull Run was taken from the regulated treated water entry point at the Lusted Hill Treatment Facility.

WTP.....Water Treatment Plant. All data in this document are for finished (i.e., "treated" or "drinking") water unless otherwise noted.

Wellfield.....Refers to the Portland Water Bureau's Columbia South Shore Wellfield. Unless otherwise noted, data provided was taken from the regulated treated water entry point at the Groundwater Pump Station Outlet.

Unregulated Contaminants

Contaminant (results measured mg/L)	Portland Water Supply			Willamette Water Supply		Joint Water Commission		
	MRL	Bull Run April 2009	Wellfield October 2009	MRL	January 2009	MRL	February 2010	Raw water, October 2008
2,4 - Dinitrotoluene	0.0001	<MRL	---	---	---	0.1	---	ND
2,6 - Dinitrotoluene	0.0001	<MRL	---	---	---	0.02	---	ND
4,4' - DDE	0.0001	<MRL	---	---	---	0.02	---	ND
Acetochlor	0.0001	<MRL	---	---	---	0.08	ND	---
EPTC	0.0001	<MRL	---	---	---	0.02	---	ND
Molinate	0.0001	<MRL	<MRL	---	---	---	---	---
Terbacil	0.0001	<MRL	---	---	---	---	---	---
Total DCPA	0.001	<MRL (7/09)	<MRL	---	---	---	---	---
Methyl Tert-Butyl Ether	---	---	---	5.0	ND	0.5	---	ND
Diazinon	0.0001	<MRL	<MRL	---	---	0.02	---	ND

Other Common Characteristics

Contaminant	MCL	Portland Water Supply		Willamette Water Supply		Joint Water Commission
		Bull Run April 2010	Wellfield October 2009	2009	2010	2010
Turbidity (NTU)*	See Below**	0.40	0.25	0.032 - 0.072	0.037 - 0.070	0.03 - 0.14
pH (Standard Units)	6.5 - 8.5	8.0	7.9	7.4 - 8.11	7.51 - 8.4	7.6
Total Dissolved Solids (ppm)	500.0	18.0	160	26.2 - 76.1	57.4 - 91.5	80
Color (Standard Units)	15	8.0	<MRL of 5.0	0	0	ND
Conductivity (µmhos/cm)***	Not Regulated	27.2	207	48 - 114	86 - 137	113
Water Temperature (°C)	Not Regulated	7.0	16.6	2.7 - 26.5	5.6 - 22.8	---
Suspended Solids (ppm)	Not Regulated	<MRL of 0.5	<MRL of 0.5	---	---	ND
Total Solids (@ 180° C)	Not Regulated	18.0	160	---	---	100
Total Organic Carbon (ppm)	Not Regulated	1.0	0.44	0.24 - 0.68	0.41 - 0.7	---

*NTU = Nephelometric Turbidity Units
 **Turbidity MCL is dependent on the treatment type.
 *** µmhos/cm = micromhos per centimeter

Last Revised: 10-18-2010

All sources show results taken from the entry point into the distribution system.

Key:

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- mg/L..... Milligrams per Liter
- MCL..... Maximum Contaminant Level. The highest level of a contaminant U.S. EPA allows in drinking water.
- MRL/RL..... Method Reporting Limit or Reporting Limit. The minimum amount detected by the testing equipment.
- ND: ARBL..... Not Detected as Reported by Lab. These values were reported as non-detected, but TVWD does not know the Method Reporting Limit.
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- 1 ppb or 0.001 ppm..... One part per billion. One part of a particular contaminant is present for every 1 billion (1,000,000,000) parts of water.
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