OHA/DEQ Drinking Water Source Monitoring Project - 2012 Detected Analytes* and Drinking Water/Health Standards

Sample Number									
DEQ Lab Report No.									
Sample Date									
Source Type									
			Drinking Water/Health Standards						
Compound	Units	Reporting Limit	(see notes)						
Pesticides by Liquid Chromatogra	ohy/Tand	em MS (DEQ Metho	d 11-LAB-0031-SOP)						
DEET (insecticide)	μg/L	0.004 - 0.005	200 ppb (Derived¥)						
Atrazine (herbicide)	μg/L	0.003 - 0.004	3 ppb (MCL)						
Deisopropylatrazine									
(pesticide degradation									
product)	μg/L	0.003 - 0.004	3 ppb (MCL for parent compound)						
Desethylatrazine (pesticide									
degradation product)	μg/L	0.003 - 0.008	3 ppb (MCL for parent compound)						
Diuron (herbicide)	μg/L	0.003 - 0.004	2 ppb (HBSL)						
Prometon (herbicide)	μg/L	0.003 - 0.004	230 ppb (RSL^+)						
Simazine (herbicide)	μg/L	0.003 - 0.004	4 ppb (MCL)						
Brominated Diphenyl Ethers by HI	RMS (EPA	Method 1614A)							
PDBE-209	μg/L	0.001 - 0.002	Not available						
various	μg/L	varies	varies						
Chlorinated Biphenyl Congeners b	y HRMS	(EPA Method 1668C)							
PCB-106	μg/L	0.00009	0.5 ppb for Total PCBs (MCL)						
various	μg/L	varies	varies						
Phenoxy Herbicides by GC/ECD M	ethod 664	10B							
μg/L varies varies									
Pharmaceuticals and Personal Car	e Product	s by LC/Tandem MS	(DEQ Method 11-LAB-0031-SOP)						
	μg/L	varies	varies						
Steroids and Hormones by HRMS	(EPA Me	thod 1698)							
beta-Sitosterol	μg/L	0.001 - 0.002	Not Available						
Cholesterol	μg/L	0.024 - 0.05	Not Available						
Coprostanol	μg/L	0.005 - 0.006	Not Available						
Estrone	μg/L	0.002 - 0.003	Not Available (CCL)						
Stigmastanol	μg/L	0.004 - 0.005	Not Available						
Low Level Analysis of Semivolatile	Organic (Compounds by GC/N	15 (EPA Method 8270D)						
2,4-Dimethylphenol	μg/L	0.005 - 0.006	100 ppb (HBSL)						
Butylbenzylphthalate	µg/L	0.001 - 0.002	14 ppb (RSL)						
Naphthalene	µg/L	0.03 - 0.04	100 ppb (HBSL)						
Phenanthrene		0.003 - 0.004	NOT AVAIIADIE						
Low Level Analysis of Pesticides by									
	µg/L	0.02 - 0.03							
Diaxin and Europe by HPMS (EDA	<u>μ</u> g/∟ Mothod 1	Varies	Varies						
		varios	varios						
Phonoxy Harbicidas by Electron C	<u>μg</u> /∟	tactor (Mathod SM							
		varies	varies						
Volatile Organic Compounds by C		A Method 8260C1	varies						
Chloromethane			190 pph (PSL)						
Metals and others by Method 200	l 8 avcant	mercury by Method	245 1						
Arsenic		25	10 pph (MCL)						
	µ8/∟	.25							

Barium	μg/L	2.0	2000 ppb (MCL)
Chromium	μg/L	1.0	100 ppb (MCL)
Copper	μg/L	1.5	1300 ppb (TT-AL)
Iron	μg/L	150	300 ppb (SMCL)
Lead	μg/L	0.20	15 ppb (TT-AL)
Manganese	μg/L	2.0	50 ppb (SMCL)
Nickel	μg/L	1.0	100 ppb (HBSL)
Zinc	μg/L	5.0	5000 ppb (SMCL)
Microbiology (by the Public Heal	th Laborat	ory)	
	MPN/		
E Coli	100ml	1	(TT)
General Sample Parameters			
Hardness as CaCO3	mg/L	0.75	Not Available
Calcium	mg/L	0.2	Not Available
Magnesium	mg/l	0.05	Not Available
Field Turbidity	NTU	1	(TT)
Total Solids	mg/L	10	(TT)

Notes:

* A complete list of analytical methods, compounds, and typical detection limits is available in a separate table. Drinking Water/Health Standards:

Where MCLs have not been developed, other values are listed to provide a health/risk-based context for the values that were measured in raw water.

(MCL) Primary Maximum Contaminant Level - MCLs are legally binding standards under the Safe Drinking Water Act for public water systems to meet (post-treatment)

(SMCL) Secondary Maximum Contaminant Level

(TT) / (TT-AL) Treatment Technique required – Action Level is given

(CCL) Currently unregulated - proposed for further evaluation on the federal Contaminant Candidate List

(Derived¥) - Derived from RfD (0.33 mg/kg-day) developed by Minnesota Department of Health using methods approved by the Agency for Toxic Substances and Disease Registry

(RSL⁺) - Regional Screening level developed by EPA (http://www.epa.gov/reg3hwmd/risk/human/rb-

concentration table/Generic Tables/pdf/restap sl table run NOV2012.pdf)

(HHBP[#]) - Human Health Benchmark for Pesticide developed by EPA

(http://iaspub.epa.gov/apex/pesticides/f?p=HHBP:home)

(LTHA) - Lifetime health advisory developed by EPA

(http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf)

(HBSL) USGS/EPA Health-based Screening levels (Toccalino, P.L., Norman, J.E., Booth, N.L, and Zogorski, J.S., 2008, Healthbased screening levels: A tool for evaluating what water-quality data may mean to human health: U.S. Geological Survey, National Water-Quality Assessment Program, accessed October 6, 2008 at http://water.usgs.gov/nawqa/HBSL/)

OHA/DEQ Drinking Water Source Monitoring Project - 2012

Detected Analytes* for Surface Water Samples and Drinking Water/Health Standards

Station Number				37137	37139	37148	37144	37143	37147	37145	37145
Sample Number				1211017-02	1211015-02	1211012-01	1211017-01	1211015-01	1211017-03	1211012-02	1211012-03
DEQ Lab Report No.				1211017	1211015	1211012	1211017	1211015	1211017	1211012	1211012
Sample Date				10-Jul-12	9-Jul-12	10-Jul-12	10-Jul-12	9-Jul-12	10-Jul-12	10-Jul-12	10-Jul-12
Source Type				Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
											City of Seaside
				Alderwood Water	City of Bandon				South Coast Water	City of Seaside	, PWS 00799
				Development Co		City of Vernonia	Lakosido Wator District	Langlois Water District	District		Necanicum River lower
			Duin line Weten (Use lith Ctean dende		FW300074					P VV3 00733	intelia et Deeneen Deint
			Drinking water/Health Standards	PWS 00304	Ferry Creek - Geiger	PWS 00922	PWS 00463	PWS 00466	PWS 00302	Necanicum River lower	Intake at Pearson Point
Compound	Units	Reporting Limit	(see notes)	Woahink Lake	Creek Blend	Rock Creek	Eel Lake	Floras Creek	Silcoos Lake	intake at Pearson Point	t (field duplicate)
Pesticides by Liquid Chromatography/Tandem M		lethod 11-I AB-0031-	SOP								
DEET (insocticida)			200 ppb (DorivodY)	ND	ND	ND	0.0052 (EPK+C)	ND	0.0052 (EPK++C)	0.00487 (EPK+C)	ND
	μg/L	0.004 - 0.003	200 ppb (Derived ¥)	ND	ND	ND		ND		0.00467 (FDKC)	ND
Various	μg/L	varies	Varies	ND	UN	ND	ND	ND	UN	ND	ND
Brominated Diphenyl Ethers by HRMS (EPA Meth	od 1614/	Δ)									
PDBF-209	11g/l	0.001 - 0.002	Not available	ND	ND	0.0131	ND	ND	ND	0.0037	ND
various	110/I	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
Valious	µ6/ -	Varies	Varies	110	110				110	, no	110
Chlorinated Biphenyl Congeners by HRMS (EPA N	lethod 1	668C)									
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
	1 0,	•									
Phenoxy Herbicides by GC/ECD Method 6640B		•									
	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
Pharmaceuticals and Personal Care Products by L	quid Chr	omatography/lande	m MS (DEQ Method 11-LAB-0031-SO	P)							
	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
Steroids and Hormones by HRMS (FPA Method 1	698)										
hota Citastaral	<u>1987</u>	0.001 0.002	Not Available	0.622	\/oid**	0 500	1 22 (5112D)	0.254	1.24	0.216 (C)(1.00)	Void**
Chalasteral	μg/L	0.001 - 0.002	Not Available	0.022	Volu	0.399	1.25 (303B)	0.334	1.54	0.310 (CV1B)	Volu 0.272 ((1.12p)
Cholesteroi	µg/L	0.001 - 0.002	NOL AVAIIADIE	0.989	Volu	0.765	1.78	0.429	1.8	0.272	0.272 (SU3::B)
		0.005 0.006		0.000.00		0.040	0.00005	0.00005	0.00077		0.0224 (SUSD,
Coprostanol	μg/L	0.005 - 0.006	Not Available	0.00366	Void**	0.042	0.00605	0.00965	0.00827	0.0152 (FDU1::B)	FDU1::B)
Stigmastanol	μg/L	0.004 - 0.005	Not Available	0.099	Void**	0.156	0.0962	0.0426	0.137	0.0432	Void**
Low Level Analysis of Semivolatile Organic Comp	unde hv	GC/MS (EBA Metho	d 8220D)								
	l			0.01/0 (EDV1··D	0.0112 (EDV2C	0.00697 (EDV2C	0.0106 (EPV1P		0.0146 (EDV1D	0.00628 (EPK2C	0.00600 (EPK2C
2.4 Dimetholy benel		0.005 0.000	100 amb (UDCL)	0.0140 (FBK1B	0.0115 (FBK5C	0.00087 (FBRSC	0.0190 (FBR1B	0.00007 (50/20)	0.0140 (FBK1B,	0.00028 (FBK5C,	0.00033 (FBR3C,
2,4-Dimethylphenol	µg/L	0.005 - 0.006	100 ppb (HBSL)	SUZ::B)	SU2::B)	CV2::B SU2::B)	SU2::B)	0.00897 (FBK3::C)	SU2::B)	SU2::B, CV2::B)	SU2::B, CV2::B)
					0.0642 (FBK3::C						
Naphthalene	μg/L	0.03 - 0.04	100 ppb (HBSL)	0.0548 (FBK3::C)	MS3::B)	ND	ND	ND	0.0857 (FBK3::C)	ND	ND
Phenanthrene	μg/L	0.003 - 0.004	Not Available	0.00475 (FBK3::C)	0.00327 (FBK3::C)	ND	0.00558 (FBK3::C)	0.00559 (FBK3::C)	0.00821 (FBK1::B)	0.0053 (FBK3::C)	0.00567 (FBK3::C)
Low Loval Analysis of Pasticidas by GC/MS (EDA I	Anthod 9	(0070)									
Low Level Analysis of Festicides by GC/WS (EFA I		varios	varias	ND	ND	ND	ND	ND	ND	ND	ND
Various	μg/L	Varies	Varies	ND	שא	UN	NU	ND	שא	ND	ND
Dioxin and Furans by HRMS (EPA Method 1613)											
various	ug/l	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
1011000	<u>~0/ -</u>	Varies	141100								
Phenoxy Herbicides by Electron Capture Detector	(Metho	d SM 6640)									
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds by GC/MS (EPA Met	nod 8260	ic)									
Chloromethane		0.600	190 ppb (RSL)	0.670 (BK2::C)	0.610 (BK2::C)	0.660 (BK2::C)	0.670 (BK2::C)	0.610 (BK2::C)	0.780 (BK2::C)	0.670 (BK2::C)	0.810 (BK2::C)
Matala and others by Mathad 200.0 areas to a		ath and DAF 4									
Initials and others by initinod 200.8 except merci	iry by ivie	245.1	10 mmh (11401)		0.20	0.20	0.25	0.27	ND	ND	ND
Arsenic	μg/L	.25	10 ppb (MCL)	ND	0.28	0.28	0.35	0.37	ND	ND	ND
Barium	μg/L	2.0	2000 ppb (MCL)	9.75	12.7	3.19	6.98	34.6	9.95	5.62	5.56
Copper	μg/L	1.5	1300 ppb (TT-AL)	2.55	ND	ND	ND	ND	ND	ND	ND
Iron	μg/L	150	300 ppb (SMCL)	ND	651	269	159	ND	206	ND	ND
Lead	μg/L	0.20	15 ppb (TT-AL)	2.30	ND	ND	ND	ND	ND	ND	ND
Manganese	μg/L	2.0	50 ppb (SMCL)	11.2	13.8	9.79	11.8	12.0	7.01	7.47	7.36
Nickel	μg/L	1.0	100 ppb (HBSL)	ND	1.54	ND	ND	3.48	ND	ND	ND

Station Number				37137	37139	37148	37144	37143	37147	37145	37145
Sample Number				1211017-02	1211015-02	1211012-01	1211017-01	1211015-01	1211017-03	1211012-02	1211012-03
DEQ Lab Report No.				1211017	1211015	1211012	1211017	1211015	1211017	1211012	1211012
Sample Date				10-Jul-12	9-Jul-12	10-Jul-12	10-Jul-12	9-Jul-12	10-Jul-12	10-Jul-12	10-Jul-12
Source Type				Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
				Alderwood Water	City of Bandon	C ¹ C ¹			South Coast Water	City of Seaside	City of Seaside PWS 00799
				Development Co.	PWS 00074	City of vernonia	Lakeside Water District	Langiois Water District	District	PWS 00799	Necanicum River lower
			Drinking Water/Health Standards	PWS 00304	Ferry Creek - Geiger	PWS 00922	PWS 00463	PWS 00466	PWS 00302	Necanicum River lower	intake at Pearson Point
Compound	Units	Reporting Limit	(see notes)	Woahink Lake	Creek Blend	Rock Creek	Eel Lake	Floras Creek	Silcoos Lake	intake at Pearson Point	: (field duplicate)
Microbiology (by the Public Health Laboratory)											
	MPN/										
E Coli	100ml	1	(TT)	ND	ND	83	ND	ND	ND	22	23
General Sample Parameters											
Hardness as CaCO3	mg/L	0.75	Not Available	9.19	15.4	21.2	12.6	41.9	12.6	12.6	12.5
Calcium	mg/L	0.2	Not Available	1.72	2.62	6.14	2.51	9.74	2.97	2.84	2.8
Magnesium	mg/l	0.05	Not Available	1.19	2.16	1.42	1.53	4.27	1.25	1.34	1.33
Field Turbidity	NTU	1	(TT)	1	3	1	1	1	2	1	ND
Total Solids	mg/L	10	(TT)	46.0	84.0	63.0	71.0	72.0	59	45	49

Notes

* A complete list of analytical methods, compounds, and typical detection limits is available in the Analytical Report

Void** - Analysis of Steroids and Hormones are VOID and not available for this sample

BK2::C - Analyte found in the method blank. The blank result is > 1/2 of the sample concentration.

CV1::B - CCV biased high. The sample results may also be biased high.

CV2::B - CV biased low. The sample results may also be biased low.

FBK1::B - Analyte found in the field (transfer, transport, or equipment) blank. Sample result may be biased high.

FBK3::C - Analyte found in the field (transfer, transport, or equipment) blank. The blank result is > 1/2 of the sample concentration.

FDU1::B - Field primary and field duplicate exceeds control limits.

MS3::B - Matrix Spike/ Matrix Spike Duplicate failed precision criteria.

SU2::B - Sample results may be biased due to high surrogate recovery.

SU3::B - The labeled compound recovery is less than ½ the lower control limit; the result for the target analyte is estimated.

Drinking Water/Health Standards:

Where MCLs have not been developed, other values are listed to provide a health/risk-based context for the values that were measured in raw water.

(MCL) Primary Maximum Contaminant Level - MCLs are legally binding standards under the Safe Drinking Water Act for public water systems to meet (post-treatment)

(SMCL) Secondary Maximum Contaminant Level

(TT) / (TT-AL) Treatment Technique required – Action Level is given

(CCL) Currently unregulated - proposed for further evaluation on the federal Contaminant Candidate List

(Derived¥) - Derived from RfD (0.33 mg/kg-day) developed by Minnesota Department of Health using methods approved by the Agency for Toxic Substances and Disease Registry

(RSL⁺) - Regional Screening level developed by EPA (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/restap_sl_table_run_NOV2012.pdf)

(HHBP[#]) - Human Health Benchmark for Pesticide developed by EPA (http://iaspub.epa.gov/apex/pesticides/f?p=HHBP:home)

(LTHA) - Lifetime health advisory developed by EPA (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf)

(HBSL) USGS/EPA Health-based Screening levels (Toccalino, P.L., Norman, J.E., Booth, N.L, and Zogorski, J.S., 2008, Health-based screening levels: A tool for evaluating what water-quality data may mean to human health: U.S. Geological Survey, National Water-Quality Assessment Program, accessed October 6, 2008 at http://water.usgs.gov/nawqa/HBSL/)

OHA/DEQ Drinking Water Source Monitoring Project - 2012

Detected Analytes* for Groundwater Samples and Drinking Water/Health Standards

Station Number				15289	37140	37146	37138	37141	37142	37149
Sample Number				1211010-01	1211002-01	1211014-03	1211014-02	1211014-01	1211018-01	1211011-01
DEQ Lab Report No.				1211010	1211002	1211014	1211014	1211014	1211018	1211011
Sample Date				19-Jun-12	9-Jul-12	10-Jul-12	10-Jul-12	10-Jul-12	12-Jul-12	9-Jul-12
Source Type				Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
County				Malheur Annex Elem.	Clackamas	Lane	Lane	Benton Corvallis Waldrof Assn	Jackson	Umatilla
				PWS 90889	Cottrell Elementary	Seavey Loop	Applewood MHP	(formerly Fairplay Elem.)	Fern Valley Estates	The Oasis
			Drinking Water/Health Standards	at 402 Annex Road	PWS 90528	PWS 00289	PWS 00840	PWS 93711	PWS 00514	PWS 91247
Compound	Units	Reporting Limit	(see notes)	(MAL172)	Well	Well	Well	Well	Well #3	Well
Pesticides by Liquid Chromatography/Tandem MS (DEQ Method 11-LAB-003	31-SOP)									
DEET (insecticide)	μg/L	0.004 - 0.005	200 ppb (Derived¥)	ND	ND	ND	ND	ND	0.00501 (FBK3::C)	ND
Atrazine (herbicide)	μg/L	0.003 - 0.004	3 ppb (MCL)	ND	ND	ND	ND	0.0758	ND	ND
Deisopropylatrazine (pesticide degradation product)	μg/L	0.003 - 0.004	3 ppb (MCL for parent compound)	ND	ND	ND	ND	0.0457	ND	ND
Desethylatrazine (pesticide degradation product)	μg/L	0.007 - 0.008	3 ppb (MCL for parent compound)	ND	ND	0.00633	ND	0.399	ND	ND
Diuron (herbicide)	μg/L	0.003 - 0.004	2 ppb (HBSL)	ND	ND	ND	ND	0.0504	ND	ND
Prometon (herbicide)	μg/L	0.003 - 0.004	230 ppb (RSL^+)	0.0181	ND	ND	ND	ND	ND	ND
Simazine (herbicide)	μg/L	0.003 - 0.004	4 ppb (MCL)	0.0114	ND	ND	ND	ND	ND	ND
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Low Level Analysis of Pesticides by GC/MS (EPA Method 8270D)										
Tebuthiuron (pesticide)	μg/L	0.002 - 0.003	500 ppb (LTHA)	ND	ND	ND	ND	ND	0.0285	ND
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Prominated Dishand Ethers by UDMS (EDA Mathed 1614A)										
	ug/I	0.001 - 0.002	Not available	ND	ND	0.00555	ND	ND	ND	ND
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Virious	μ <u>6</u> / -	Varies	Valles							
Chlorinated Biphenyl Congeners by HRMS (EPA Method 1668C)							ND			ND
PCB-106	μg/L	0.000145	0.5 ppb for Total PCBs (MCL)	ND	0.000119 (BK9::C)	ND	ND	ND	ND	ND
Various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Phenoxy Herbicides by GC/ECD Method 6640B	-		-							
	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Pharmaceuticals and Personal Care Products by Liquid Chromatography/Tan	dem MS	(DEO Method 11-LA	AB-0031-SOP)							
······	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
	1.0							1	1	
Steroids and Hormones by HKMS (EPA Method 1698)					0.00705 (BK1··B	0.00471 (8K2C		T	T	0.0081 / 0/11-0
hota Sitestaral		0.001 0.002	Not Available		CV(1B)	CV(1.0 SU(2.0)	Void**	Void**	ND	0.0001 (DK1D CV1D
Estrone	µg/L	0.001 - 0.002		ND	0.00204		Void**	Void**		
LSUONE	μg/ L	0.002 - 0.005		ND	0.00204	ND	Volu	Volu		ND
Low Level Analysis of Semivolatile Organic Compounds by GC/MS (EPA Met	hod 8270	D)					1		Т	
				0.0102 (FBK3::C		0.0067 (FBK3::C	0.00671 (FBK3::C		0.00972 (FBK3::C	0.00824 (FBK3::C
2,4-Dimethylphenol	μg/L	0.005 - 0.006	100 ppb (HBSL)	CV2::B)	ND	SU2::B CV2::B)	CV2::B)	ND	SU2::B)	SU2::B)
Butylbenzylphthalate	μg/L	0.001 - 0.002	14 ppb (RSL)	ND	ND	0.383	ND	ND	ND	ND
New Maleria		0.02.0.04			0.07(1.(EDK2C)	ND	0.0446 (50/2000)	0.148 (FBK3::C	0.0295 (50/2000)	0.0471 (50/20)
	µg/L	0.03 - 0.04	Not Available	ND		0.00216 (EBK2···C)	0.0440 (FBK3C)		0.0365 (FBK3C)	
richardinene	μg/L	0.003 - 0.004	Not Available	ND	ND	0.00310 (10K3C)	0.00409 (18K3C)	0.00433 (18K3C)	0.00340 (1 BK3C)	ND
Dioxin and Furans by HRMS (EPA Method 1613)	1	1	I		1		1			
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Phenoxy Herbicides by Electron Capture Detector (Method SM 6640)										
various	μg/L	varies	varies	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds by GC/MS (EPA Method 8260C)										
Chloromethane		0.600	190 ppb (RSL)	ND	ND	ND	ND	0.610 (BK2::C)	0.720 (BK2::C)	ND
Matals and others by Method 200 8 except moreury by Method 245 1	·									
Initials and others by Method 200.6 except mercury by Method 245.1										

Station Number				15390	27140	27140	27120	27141	27142	27140
				15289	37140	37140	3/138	37141	37142	37149
Sample Number				1211010-01	1211002-01	1211014-03	1211014-02	1211014-01	1211018-01	1211011-01
DEQ Lab Report No.				1211010	1211002	1211014	1211014	1211014	1211018	1211011
Sample Date				19-Jun-12	9-Jul-12	10-Jul-12	10-Jul-12	10-Jul-12	12-Jul-12	9-Jul-12
Source Type				Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
County				Malheur Annex Elem.	Clackamas	Lane	Lane	Benton Corvallis Waldrof Assn	Jackson	Umatilla
				PWS 90889	Cottrell Elementary	Seavey Loop	Applewood MHP	(formerly Fairplay Elem.)	Fern Valley Estates	The Oasis
			Drinking Water/Health Standards	at 402 Annex Road	PWS 90528	PWS 00289	PWS 00840	PWS 93711	PWS 00514	PWS 91247
Compound	Units	Reporting Limit	(see notes)	(MAL172)	Well	Well	Well	Well	Well #3	Well
Arsenic	μg/L	.25	10 ppb (MCL)	11.4	ND	0.62	0.65	0.68	0.58	0.25
Barium	μg/L	2.0	2000 ppb (MCL)	121	ND	5.6	4.32	7.57	8.31	ND
Chromium	μg/L	1.0	100 ppb (MCL)	ND	1.94	ND	ND	3.81	ND	ND
Copper	μg/L	1.5	1300 ppb (TT-AL)	3.8	ND	2.58	1.83	45.8	2.09	21.4
Iron	μg/L	150	300 ppb (SMCL)	ND	ND	ND	253	ND	ND	ND
Lead	μg/L	0.20	15 ppb (TT-AL)	ND	ND	ND	0.24	2.98	0.2	0.41
Manganese	μg/L	2.0	50 ppb (SMCL)	ND	ND	ND	23.7	ND	ND	ND
Zinc	μg/L	5.0	5000 ppb (SMCL)	5.06	306	ND	7.48	19.1	10.2	12
Microbiology (by the Public Health Laboratory)										
	MPN/									
E Coli	100ml	1	(TT)	ND	ND	ND	2	ND	ND	ND
General Sample Parameters										
Hardness as CaCO3	mg/L	0.75	Not Available	380	44.8	80.9	94.7	111	105	325
Calcium	mg/L	0.2	Not Available	97.4	9.25	18.9	19.6	22.2	31.3	ND
Magnesium	mg/l	0.05	Not Available	33.2	5.26	8.16	11.2	13.5	6.63	ND
Field Turbidity	NTU	1	(TT)	ND	3	ND	3	ND	ND	ND
Total Solids	mg/L	10	(TT)	803	241	134	184	244	311	170

Notes:

* A complete list of analytical methods, compounds, and typical detection limits is available in a separate table.

NA** - Analysis of Steroids and Hormones are VOID and not available for this sample

BK1::B - Analyte found in the method blank. Sample result may be biased high.

BK2::C - Analyte found in the method blank. The blank result is > 1/2 of the sample concentration.

BK9::C - Analyte found in the method blank below LOQ. The blank result is > 1/2 of the sample concentration.

CV1::B - CCV biased high. The sample results may also be biased high.

CV2::B - CV biased low. The sample results may also be biased low.

FBK3::C - Analyte found in the field (transfer, transport, or equipment) blank. The blank result is > 1/2 of the sample concentration.

MS3::B - Matrix Spike/ Matrix Spike Duplicate failed precision criteria.

SU2::B - Sample results may be biased due to high surrogate recovery.

SU3::B - The labeled compound recovery is less than ½ the lower control limit; the result for the target analyte is estimated.

Drinking Water/Health Standards:

Where MCLs have not been developed, other values are listed to provide a health/risk-based context for the values that were measured in raw water.

(MCL) Primary Maximum Contaminant Level - MCLs are legally binding standards under the Safe Drinking Water Act for public water systems to meet (post-treatment)

(SMCL) Secondary Maximum Contaminant Level

(TT) / (TT-AL) Treatment Technique required – Action Level is given

(CCL) Currently unregulated - proposed for further evaluation on the federal Contaminant Candidate List

(Derived¥) - Derived from RfD (0.33 mg/kg-day) developed by Minnesota Department of Health using methods approved by the Agency for Toxic Substances and Disease Registry

(RSL⁺) - Regional Screening level developed by EPA (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/restap_sl_table_run_NOV2012.pdf)

(HHBP*) - Human Health Benchmark for Pesticide developed by EPA (http://iaspub.epa.gov/apex/pesticides/f?p=HHBP:home)

(LTHA) - Lifetime health advisory developed by EPA (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf)

(HBSL) USGS/EPA Health-based Screening levels (Toccalino, P.L., Norman, J.E., Booth, N.L, and Zogorski, J.S., 2008, Health-based screening levels: A tool for evaluating what water-quality data may mean to human health: U.S. Geological Survey, National Water-Quality Assessment Program, accessed October 6, 2008 at http://water.usgs.gov/nawqa/HBSL/)