

APPENDIX 8: CHAPTER 8 APPENDICES

8A: Yelm Area Wells Water Quality Data

Appendix 8A
Yelm Area Wells Water Quality Data

Water Quality Data From SW Yelm No. 1 , Local Wells and Geologic Formations

SampleID	Location	Site	Formation Type*	Date	As	Ba	Cd	Cr	Hg	Se	Be	Ni	Sb	Th	CN	FI	NO2	NO3	P	Total Nitrite/Nitrate
8943946	Downtown Yelm	City Well 1	Shallow, Glacial	6/9/2000	0.005	0.05	0.001	0.005	0.00025	0.0025	0.001	0.02	0.001	0.0005	0.025	0.10	0.1	1.5		1.5
8943947	Downtown Yelm	City Well 2	Shallow, Glacial	6/9/2000	0.005	0.05	0.001	0.005	0.00025	0.0025	0.001	0.02	0.001	0.0005	0.025	0.10	0.1	1.2		1.2
West Test Well - WML	Thurston Heights	West Test Well - WML	Deep, Glacial	12/15/1994	0.005	0.125	0.001	0.005	0.0005	0.0025						0.10		1.3		
NTW	Thurston Heights	North Test Well - RN	Deep, Glacial	12/1/1994														0.01		
WTW	Thurston Heights	West Test Well - RN	Deep, Glacial	12/15/1994														1		
STW	Thurston Heights	South Test Well - RN	Deep, Glacial	12/13/1994																
SW Yelm No. 1	Thurston County	SW Yelm No. 1	Deep, Glacial/Non-Glacial	2/6/2006	0.001	0.004	--	--	3.00E-06	--	--	--	--	--	0.003	0.15	0.0075	1.53		1.53
Median Qvr	Thurston County	Median Qvr	Shallow, Glacial	NA												0.10		1.7	0.02	
Median Qvt	Thurston County	Median Qvt	Shallow, Glacial	NA												0.10		0.34	0.03	
Median Qva	Thurston County	Median Qva	Shallow, Glacial	NA												0.10		0.78	0.02	
Median Qf	Thurston County	Median Qf	Confining Unit	NA												0.10		0.2	0.04	
Median Qc	Thurston County	Median Qc	Deep, Glacial	NA												0.10		0.34	0.05	
Median Tqu	Thurston County	Median Tqu	Deep, Glacial/Non-Glacial	NA												0.10		0.05	0.14	
Median Tb	Thurston County	Median Tb	Bedrock	NA												0.10		0.05	0.03	

Notes:

All concentrations reported in mg/L unless otherwise noted

Analytes that were not detected are reported as 1/2 the detection limit

Hardness for the "Median" samples reported as CaCO₃

* Refer to Attachment A for descriptions of lithologic and hydrogeologic units

** Edge Analytical Inc. reported a pH of 7.88

-- non-detect with no detection limit given by laboratory

na = not analyzed

RN is Robinson and Noble, 1995

WML is Water Management Laboratories, Inc (results presented in Robinson and Noble, 1995)

Median concentrations for Qvr, Qvt, Qva, Qf, Qc, Tqu, and Tb from Drost et al. (1998)

Blank cells indicate no reported concentration

Water Quality Data From SW Yelm No. 1 , Local Wells and Geologic Formations

SampleID	Location	Site	Formation Type*	Date	Fe	Mn	Ca	Mg	K	Ag	Cl	SO4	Zn	Na	HCO3	Hardness	SiO2	Temp (°F)	pH (1)	Cond	DO
8943946	Downtown Yelm	City Well 1	Shallow, Glacial	6/9/2000	0.015	0.005				0.005	4		0.025	5		40				87	
8943947	Downtown Yelm	City Well 2	Shallow, Glacial	6/9/2000	0.015	0.005				0.005	4		0.025	5		38				85	
West Test Well - WML	Thurston Heights	West Test Well - WML	Deep, Glacial	12/15/1994	0.015	0.005	11	9	1.6	0.005	4	4	0.05	8	65	63	40		6.9	148	
NTW	Thurston Heights	North Test Well - RN	Deep, Glacial	12/1/1994	0.05	0.2					2.5				60	45		52	7.2	145	
WTW	Thurston Heights	West Test Well - RN	Deep, Glacial	12/15/1994	0.05	0.1					1.25				60	65		50		163	
STW	Thurston Heights	South Test Well - RN	Deep, Glacial	12/13/1994	0.11	0.025					1.25				45	50		49	6.9	132	
SW Yelm No. 1	Thurston County	SW Yelm No. 1	Deep, Glacial/Non-Glacial	2/6/2006	0.17	0.106	13	8.4	1.4	--	3.7	3.3	0.011	8.18	75	67.8	49	50.5	6.5**	165	11.6
Median Qvr	Thurston County	Median Qvr	Shallow, Glacial	NA	0.007	0.0005	11	5.2	1.1		4.2	6		6.1		50	31		6.7	129	6.7
Median Qvt	Thurston County	Median Qvt	Shallow, Glacial	NA	0.043	0.014	11	6	1.4		3.6	6.7		6.7		54	33		6.8	137	0.8
Median Qva	Thurston County	Median Qva	Shallow, Glacial	NA	0.014	0.002	10	5.2	1.4		3.4	4		5.9		48	31		6.8	124	5.7
Median Qf	Thurston County	Median Qf	Confining Unit	NA	0.049	0.012	12	6	2.2		2.8	5.4		7.6		72	40		7.2	176	4.9
Median Qc	Thurston County	Median Qc	Deep, Glacial	NA	0.02	0.004	12	6.6	1.9		3.4	4		6.4		55	37		7.2	144	3.3
Median Tqu	Thurston County	Median Tqu	Deep, Glacial/Non-Glacial	NA	0.11	0.061	13	6.2	2.1		3	2		7.8		57	40		7.8	162	0.2
Median Tb	Thurston County	Median Tb	Bedrock	NA	0.01	0.006	21	3.9	0.4		3.9	5.5		23		64	27		7.9	184	0.5

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 Hardness for the "Median" samples reported as CaCO3
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 Median concentrations for Qvr, Qvt, Qva, Qf, Qc, Tqu, and Tb from Drost et al. (1998)
 Blank cells indicate no reported concentration

Water Quality Data From SW Yelm No. 1 , Local Wells and Geologic Formations

SampleID	Location	Site	Formation Type*	Date	TURB (NTU)	Color (Color Units)	TDS	Pb	Cu
8943946	Downtown Yelm	City Well 1	Shallow, Glacial	6/9/2000	0.05	2.5		0.002	0.01
8943947	Downtown Yelm	City Well 2	Shallow, Glacial	6/9/2000	0.05	2.5		0.001	0.01
West Test Well - WML	Thurston Heights	West Test Well - WML	Deep, Glacial	12/15/1994	0.7	2.5	101	0.001	0.01
NTW	Thurston Heights	North Test Well - RN	Deep, Glacial	12/1/1994	1.5				
WTW	Thurston Heights	West Test Well - RN	Deep, Glacial	12/15/1994	2				
STW	Thurston Heights	South Test Well - RN	Deep, Glacial	12/13/1994	12				
SW Yelm No. 1	Thurston County	SW Yelm No. 1	Deep, Glacial/Non-Glacial	2/6/2006	0.3	5	118	--	--
Median Qvr	Thurston County	Median Qvr	Shallow, Glacial	NA			100		
Median Qvt	Thurston County	Median Qvt	Shallow, Glacial	NA			110		
Median Qva	Thurston County	Median Qva	Shallow, Glacial	NA			101		
Median Qf	Thurston County	Median Qf	Confining Unit	NA			130		
Median Qc	Thurston County	Median Qc	Deep, Glacial	NA			113		
Median Tqu	Thurston County	Median Tqu	Deep, Glacial/Non-Glacial	NA			127		
Median Tb	Thurston County	Median Tb	Bedrock	NA			118		

Notes:

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** Edge Analytical Inc. reported a pH of 7.88

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Blank cells indicate no reported concentration