

DRAFT: January 4, 2011 Summary of Water Quality for Human Health Risk Assessment, Mint Farm Industrial Park Area - City of Longview, WA

Deep Groundwater Aquifer																			
Method	Tier	Analyte	Gas #	Screening Level				Surface Water				Chinook Ventures				DW-1			
				Location Date	RSW-1 (Columbia River) 06/08/2009	RSW-3 (Cowlitz River) 06/08/2009	RSW-2 (Puget Sound Energy) 06/08/2009	PW-1 07/14/2009	PW-1 11/04/2009	PW-1 10/05/2009	PW-1 08/11/2009	DW-9 11/12/2009	DW-8 06/09/2009	DW-7 06/10/2009	DW-6 06/11/2009	DW-5 06/12/2009	DW-4 06/13/2009	DW-3 06/12/2009	DW-2 06/12/2009
A2120B	2a	Color, Apparent		COLOR color unit	--	--	--	10	10	5	25	20	15	10	10	5	10	15	
A2320B	2a	Alkalinity, Total (As CaCO ₃)		ALK mg/l	--	--	--	43	27	104	105	102	112	89	112	103	133	85	
A2340B	2a	Hardness As CaCO ₃		HARDNESS mg/l	--	--	--	43.2	24	140	99	87	88	92.9	74	151	103	74	
A2540B	2a	Conductivity		COND umhos/cm	--	--	--	128	83	247	236	240	232	228	239	194	239	194	
A2540C	2a	Total Dissolved Solids (Residue, Filterable)		TDS mg/l	--	--	--	62	55	164	235	187	166	145	147	161	165	144	
A4500PSIO2	2a	Silica		mg/l	--	--	--	10.7	23.9	58.8	43.1	51	59	59.7	55	76.9	52.6	55	
A5310C	2a	Total Organic Carbon		TOC mg/l	--	--	--	2.2	1.3	0.8	1.45	1.29	1.9	1.4	2.1	2.3	0.4	1.3	
A5910B	2a	UV254		cm ⁻¹	--	--	--	33.4	40.9	29	0.048	0.039	0.04	0.05	0.04	0.04	0.04	0.053	
E150.1	2a	pH		pH units	--	--	--	7.55	7.54	7.56	7.73	7.34	7.91	7.37	7.78	7.61	7.46	7.26	
E180.1	2a	Turbidity		TURBIDITY ntU	--	--	--	6	8	3.6	3.9	2.97	2.01	1.28	3.3	0.99	6.7	12	
Microbial Parameters																			
A9221E	2a	Fecal Coliform		FECCOLI mpn/100ml	--	--	--	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	
A9223B	2a	Coliform		COLIF mpn/100ml	--	--	--	205	210	ND	ND	ND	ND	ND	ND	7	ND	ND	
Contaminants To Be Removed Using Treatment																			
E200.8	2a	Arsenic		7440-38-2 ug/l	10	MCL	0.85	ND	7.24	7.6	6.1	5.7	5.85	4.14	9.17	2.29	3.75	6.32	
E200.7	2a	Iron		7439-89-6 ug/l	26,000	EPA RSL ²	358	492	1,110	808	1,050	867	901	1,060	637	1,840	966	895	3.77
E200.7	2a	Manganese		7439-96-5 ug/l	2,200	MTCA Method B ²	17.2	17	498	415	681	554	574	587	513	593	377	216	548
Naturally Occurring Minerals and Salts																			
E200.7	2a	Calcium		7440-70-2 ug/l	--	--	--	11,300	7,100	24,400	36,900	28,200	23,900	26,500	22,600	24,800	21,600	24,100	
E200.7	2a	Magnesium		7439-95-4 ug/l	--	--	--	3,630	1,530	6,550	11,300	7,020	5,010	5,950	6,280	8,070	9,730	4,810	
E200.7	2a	Potassium		7440-09-7 ug/l	--	--	--	5,630	584	4,040	5,040	3,740	3,620	3,250	4,140	5,950	6,260	2,730	
E200.7	2a	Silicon		SI ug/l	--	--	--	9,470	5,030	7,550	24,100	26,400	21,500	24,700	24,600	21,100	24,200	24,500	
E200.7	2a	Sodium		7440-23-5 ug/l	--	--	--	ND	ND	0.2	ND	10,000	11,000	9,280	10,300	8,850	11,500	8,650	
E300	2a	Bromide		BRONIDE mg/l	--	--	--	5.4	3.3	12.1	19.2	8.36	NA	NA	NA	ND	0.2	ND	
E300	2a	Chloride		CHLORIDE mg/l	--	--	--	ND	ND	0.2	0.3	ND	ND	0.27	ND	0.3	0.2	0.31	
E300	2a	Fluoride		FL T mg/l	4	MCL	0.4	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E300	2a	Nitrogen, Nitrate (As N)		N N03 mg/l	10	MCL	0.4	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E300	2a	Nitrogen, Ammonia (As N)		N NH3 mg/l	1	MCL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E365.3	2a	Phosphate, Ortho-		14265-44-2 mg/l	--	--	--	0.03	0.03	0.58	0.26	0.194	0.213	0.13	0.232	0.345	0.25	0.35	
E365.3	2a	Phosphorus, Total (As P)		mg/l	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
E365.3	2a	Phosphorus, Total Orthophosphate (As P)		SULFATE mg/l	--	--	--	6.9	5.8	0.3	0.2	0.45	0.57	0.6	0.4	1.42	0.3	1.6	
Metals																			
E200.7	2a	Aluminum		7429-90-5 ug/l	--	--	--	54	704	37,000	EPA RSL	392	22.3	ND	ND	ND	ND	ND	
E200.7	2a	Zinc		7440-66-6 ug/l	4,800	MTCA Method B	6	MCL	ND	ND	ND	ND	ND	8.5	ND	ND	ND	ND	
E200.8	2a	Antimony		7440-36-0 ug/l	2,000	MCL	18.1	MCL	ND	ND	ND	ND	ND	0.07	ND	ND	ND	ND	
E200.8	2a	Barium		7440-39-3 ug/l	4	MCL	5	MCL	ND	ND	ND	ND	ND	0.043	ND	ND	ND	ND	
E200.8	2a	Beryllium		7440-41-8 ug/l	100	MCL	0.34	MCL	ND	ND	ND	ND	ND	0.029	ND	ND	ND	ND	
E200.8	2a	Cadmium		7440-43-9 ug/l	1,300	MCL	1.48	MCL	ND	ND	ND	ND	ND	0.29	ND	ND	ND	ND	
E200.8	2a	Chromium, Total		7440-47-3 ug/l	15	MCL	0.267	MCL	ND	ND	ND	ND	ND	0.15	ND	ND	ND	ND	
E200.8	2a	Copper		7440-50-8 ug/l	100	MCL	0.34	MCL	ND	ND	ND	ND	ND	0.061	ND	ND	ND	ND	
E200.8	2a	Lead		7439-92-1 ug/l	15	MCL	0.267	MCL	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	
E200.8	2a	Nickel		7440-02-0 ug/l	100	MCL	0.45	MCL	ND	ND	ND	ND	ND	0.033	ND	ND	ND	ND	
E200.8	2a	Silver		7440-22-4 ug/l	30	WA GQC	0.375	WA GQC	ND	ND	ND	ND	ND	0.07	ND	ND	ND	ND	
E200.8	2a	Uranium		U	50	MCL	0.375	MCL	ND	ND	ND	ND	ND	0.052	ND	ND	ND	ND	
Volatile and Synthetic Organics																			
E524.2	2a	Chloroform		00067-66-3 ug/l	80	WCL (total trihalomethanes)	1.5	MCL	ND	ND	ND	ND	ND	0.86	ND	ND	ND	ND	
E525.2	2a	Bis(2-Ethylhexyl) Phthalate		00117-81-7 ug/l	6	EPA RSL	3.8	WQ GQC (MCL is 4 milligrams/year)	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	
E525.2	2b	Diethyl Adipate		103-23-1 ug/l	5	MTCA Method B	56	MCL (226, combined)	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	
E525.2	2b	Fluoranthene		00206-44-0 ug/l	46	MTCA Method B	ND	MCL (226, combined)	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	
E525.2	2b	Isophorone		00078-59-1 ug/l	5	MCL (226, combined)	0.98	MCL (226, combined)	ND	ND	ND	ND	ND	0.01	ND	ND	ND	ND	
Radiation																			
E900	2a	Alpha, Gross Beta, Gross		ALPHA pol/l	15	WA GQC (MCL is 4 milligrams/year)	0.85	4	ND	ND	ND	ND	ND	0.9	ND	ND	ND	ND	
E903.1	2a	Radium 226		13882-63-3 pol/l	5	EPA RSL	0.13	-0.01	ND	ND	ND	ND	ND	0.04	ND	ND	ND	ND	
E904.0	2a	Radium 228		15262-20-1 pol/l	5	MTCA Method B	0.98	MCL (226, combined)	ND	ND	ND	ND	ND	0.01	ND	ND	ND	ND	
Contaminants of Emerging Concern¹																			
E1694M	3	Bis(2-Hydroxybenzophenone		131-57-7 BPHENOLA	ng/l	4,655,000	See HHRATM	ND	ND</td										

General Notes: Footnotes:

Screening Level Sources:

= State or Federal enforceable maximum contaminant level for drinking water.
= Washington Administrative Code (WAC) 173-200-040 Table 1 Groundwater Quality Criteria
= Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method B cleanup levels for groundwater
= United States Environmental Protection Agency (USEPA) Regional Screening Levels for tapwater (April 2009).

attributable to sampling or laboratory contamination.

2. Washington Dept. of Health regulation 100-400-0000 and monographs due to biohazardable anaesthetic compounds. The DOH coordinates

- = not detected at concentrations greater than or equal to MRL
- = Chemical Abstract Service
- = milligrams per liter (parts per million)
- = micrograms per liter (parts per billion)
- = nanograms per liter (parts per trillion)
- = picocuries per liter
- = most probable number (MPN) of bacteria per 100 milliliters
- = micromhos

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