

Stormwater Quality Data from SeaTac Airport

Sample Date ¹	Outfall ¹	Hardness ²	FW Acute WQS for Copper ^{3, 4}	TR Copper Sampled ^{2, 4}	Sample as multiple of Acute WQS	Dissolved assuming p.c = .75	Diss Frac as multiple of Acute WQS
11/19/98	SDE4	16	3.0	32	11	24	8
01/20/99	SDE4	14.5	2.8	22	.8	16.5	6
02/22/99	SDE4	10	1.9	15	8	11.25	6
03/24/99	SDE4	10	1.9	20	10	15	8
07/02/99	SDE4	14	2.7	26	10	19.5	7
11/13/98	SDS3	24	4.4	22	5	16.5	4
01/13/99	SDS3	20	3.7	23	6	17.25	5
11/11/98	SDN1	16	3.0	24	8	18	6
01/13/99	SDN1	8	1.6	24	15	18	11
03/24/99	SDN1	16	3.0	15	5	11.25	4
05/11/99	SDN1	14.2	2.7	46	17	34.5	13
07/02/99	SDN1	10	1.9	38	20	28.5	15
11/13/98	SDN4	24	4.4	25	6	18.75	4
01/13/99	SDN4	28	5.1	20	4	15	3

1. Some of these data reported in 2000 Annual Monitoring Report
 2. From 1999 Annual Stormwater Monitoring Report, Appendix D p. 109
 3. Calculated in accordance with WAC 173-201A-040.
 4. Values stated in micrograms per liter.
- p.c. = partitioning coefficient

Annual Stormwater Monitoring Report

for

Seattle-Tacoma International Airport

for the period July 1, 1998 through June 30, 1999



September 1999

1988-89 WET Testing Sample Data

sample	stream characteristics		concentration, mg/l												WET, % survival																
	depth	dur	TRB	BOO	NH3	Burd	glycols	TRCu	TRPb	TRZn	Deu	DPb	DZn	Hard	cond	avg rank	dephind	fathead	Comment												
SDN4	0.81	0.08	0.2	0.15	0.16	0.11	0.05	0.1	7.5	22	15	2	1	n/a	2	0.025	0.0012	0.127	0.021	0.001	0.040	24	75	65%	75	100					
% rank																															
1/13/89 EAC	0.65	1.07	22	0.16	0	0.65	0.6	0.6	7	0.2	2	0.5	n/a	2	0.020	0.001	0.034	0.014	0.001	0.027	28	58	41%	100	100						
1/13/89 EAC																															
average									7.1	15	12	2	0.8	2	0.023	0.001	0.081	0.018	0.001	0.036	26	66	88	100							
									count	20	20	22		16	22	23	23														
									max	27	23	36		34	0.091	0.003	0.127														
									min	2	2	2		2	0.015	0.001	0.014														
									median	4	5	4		2	0.035	0.001	0.025														

Comments

1. SDE4 Jan 20, 1989 sample lab error on fathead test was 48 hr instead of 96 hr
2. July 2, 1989 samples control failed at 72.5% survival (Criterion is >80%)
3. July 2, 1989 SDN1 sample insufficient # of organisms to start depind test
4. May 11, 1989 SDN1 sample taken for source tracing (was a non storm) only, not to explicitly satisfy permit condition S10

<MDL value shown is 1/2 MDL exceeds single value and/or average criterion for survival

MHRS

1. pH, ammonia, hardness, and conductivity measured at Prairiemix toxicology lab
2. Dissolved metals not routinely analyzed, therefore, no summary statistics provided
3. Summary statistics for each outfall are relative to unfiltered data set July 1984 through June 30, 1989
4. All data for SDN1 are from "up" station located at intake SDN1-22
5. Ammonia values < 1 analyzed at Aquatic Research unless shown as shaded in table

Effect of increasing hardness on Fresh Water Acute Water Quality Standards (Revised)

Reference: WAC 173.201A.040

Copper - Fresh water Acute

							WQC @ this
	Exp -> (.9422)	Hardness, mg/l	[ln hardness]	- .1.464)	<- Exp	e^x	hardness (ug/l)
0.96	0.9422	16	2.772588722	1.464	1.148333	3.152933	3.0
0.96	0.9422	19	2.944438979	1.464	1.31025	3.707102	3.6
0.96	0.9422	42	3.737669618	1.464	2.057632	7.827415	7.5
0.96	0.9422	47	3.850147602	1.464	2.163609	8.702489	8.4
0.96	0.9422	48	3.871201011	1.464	2.183446	8.87684	8.5
0.96	0.9422	110	4.700480366	1.464	2.864793	19.39068	18.6
0.96	0.9422	122	4.804021045	1.464	3.062348	21.37771	20.6

Zinc - Fresh water Acute

							WQC @ this
	Exp ->	Hardness, mg/l	[ln hardness]		<- Exp	e^x	hardness, ug/l
0.978	0.8473	16	2.772588722	0.8604	3.209614	24.76953	24.2
0.978	0.8473	19	2.944438979	0.8604	3.355223	28.852	28.0
0.978	0.8473	42	3.737669618	0.8604	4.027327	56.11075	54.9
0.978	0.8473	47	3.850147602	0.8604	4.12263	61.72136	60.4
0.978	0.8473	48	3.871201011	0.8604	4.140469	62.83226	61.4
0.978	0.8473	110	4.700480366	0.8604	4.843117	126.8842	124.1
0.978	0.8473	122	4.804021045	0.8604	4.930847	138.4968	135.4