

Appendix G

Table G.1. Average xenobiotic concentration during each concentration phase.

Sand Sacrifice Day	Benzene		PCP		Cd	
	Average Conc (mg/L)	s	Average Conc (mg/L)	s	Average Conc (mg/L)	s
53	1.01	1.93	2.57	0.28	1.63	0.11
113	4.32	6.08	7.88	0.94	5.76	0.80
135	11.86	5.60	10.26	0.86	8.24	0.32
149	11.47	8.17	11.04	0.94	8.31	0.68
170	9.12	7.89	8.77	0.50	4.84	0.27
191	3.09	3.55	7.52	0.43	5.17	0.42
275	2.89	0.93	3.97	0.23	2.43	0.33

Appendix G

Table G.2a. VS column comparison data.

	F1		F2		F3		F4	
	Avg VS/ dry sand (mg/g)	s of duplicate	Avg VS/ dry sand (mg/g)	s of duplicate	Avg VS/ dry sand (mg/g)	s of duplicate	Avg VS/ dry sand (mg/g)	s of duplicate
Control	53	1.0468	1.8149	2.1591	1.8390	0.7739	0.8227	0.5187
	113	2.2204	1.5435	0.4437	1.2159	0.0595	1.8936	0.7899
	135	4.0438	3.5923	0.3467	4.5911	1.1855	2.8044	0.3247
	149	1.7665	1.7794	1.2682	1.8578	0.4100	1.5969	0.1451
	170	1.8590	2.5906	0.1544	2.9014	0.1280	2.7796	0.0739
	191	1.9445	3.0980	0.5155	1.7778	0.2270	1.9982	0.7624
275	3.1037	2.6569	0.8171	2.7542	0.4342	2.7529	0.7416	
Benzene	53	2.2261	2.8184	0.8553	1.9664	0.7382	0.3306	2.7515
	113	2.4107	3.1495	1.8174	2.5816	0.3907	2.7515	0.0328
	135	3.6799	1.8533	0.1551	1.0535	0.2993	3.2108	1.6216
	149	1.6556	4.0237	2.0518	2.8272	0.0566	1.8535	0.2839
	170	3.8365	2.5540	0.6955	1.9971	0.7866	2.3033	0.6598
	191	1.9934	3.6039	2.7878	4.1729	0.1997	2.1931	0.1619
275	2.9389	1.2950	0.0633	1.4813	0.1146	2.7667	0.5664	
PCP	53	3.2198	1.7541	0.7730	1.4232	0.4643	1.7034	0.2791
	113	2.8259	2.9582	0.5776	3.1588	0.3452	2.2647	0.5063
	135	2.3669	1.0114	0.0139	1.3198	0.1422	1.5484	0.1183
	149	1.0969	2.7333	1.1113	2.8686	0.3602	1.6826	0.3948
	170	3.7223	1.5895	0.1280	1.5965	0.0274	1.4086	0.4775
	191	1.3522	2.2477	0.2356	2.7146	0.8053	2.1430	0.5619
275	1.4834	1.8210	0.5644	2.5179	2.1248	2.2521	1.3733	
Cd	53	0.6375	2.6974	0.5644	3.7367	0.6221	3.5912	0.6142
	113	4.0207	1.1635	0.0165	1.7549	0.0165	2.2203	0.1216
	135	2.2410	2.6388	1.0691	2.9465	1.5219	2.2392	0.2973
	149	1.9294	2.4924	0.8013	3.6702	1.5755	2.9783	0.1310
	170	2.4600	1.8553	0.7539	3.7620	0.3926	3.1177	0.8151
	191	3.0721	3.4459	2.1321	3.0809	0.7552	1.9690	0.2453
275	4.1467	0.7326	0.7326					

Appendix G

Table G.2b. VS column comparison data for day 276.

day 276

Column	Location	Avg VS/ dry sand (mg/g)	s of duplicate
Control	Inf	2.149202	0.489686
	F1	0.988083	0.105374
	F2	3.465095	3.13049
	F3	1.227989	0.074162
	F4	1.302636	0.444462
	Eff	2.340594	2.30804

Benzene	Inf	3.799587	0.191898
	F1	1.462964	0.28606
	F2	1.308467	0.344727
	F3	1.261901	0.279927
	F4	4.046025	4.560242
	Eff	1.78096	0.357737

PCP	Inf	1.622113	0.234069
	F1	0.98623	0.023619
	F2	0.655096	0.065526
	F3	0.614971	0.198674
	F4	0.75178	0.122693
	Eff	0.786068	0.044781

Cd	Inf	2.27931	0.040834
	F1	1.575281	0.396807
	F2	1.147197	0.254104
	F3	1.380203	0.005514
	F4	1.671968	0.137601
	Eff	1.499499	0.495152

Appendix G

Table G.3 Carbohydrates comparisons between columns at ports F1, F2, F3, and F4.

Time (days)	Avg. Carbs (µg/g dry sand)		Avg. Carbs (µg/g dry sand)		Avg. Carbs (µg/g dry sand)		Avg. Carbs (µg/g dry sand)	
	F1	s of duplicate	F2	s of duplicate	F3	s of duplicate	F4	s of duplicate
Control	53	43.820	28.430	5.854	36.696	5.161	37.090	0.193
	113	73.361	80.108	12.511	91.682	2.775	95.617	15.619
	135	71.422	77.960	8.567	108.117	12.437	88.172	3.297
	149	80.189	87.293	9.236	117.142	12.140	99.243	2.393
	170	93.702	93.078	4.338	99.615	8.418	86.199	8.376
	275	135.567	134.766	3.873	97.425	1.668	108.121	12.033
		126.215	5.901	137.644	15.411	135.886	141.016	12.655
Benzene	53	30.723	25.311	1.074	36.450	2.943	36.039	2.387
	113	108.618	100.859	7.847	94.954	14.030	80.021	5.148
	135	119.851	169.188	27.849	124.914	15.915	114.444	2.384
	149	129.794	177.693	26.750	136.342	16.161	126.897	2.242
	170	129.794	109.380	21.853	160.327	13.768	146.790	26.101
	275	132.437	110.381	20.058	172.905	54.372	171.361	50.100
		205.243	16.855	157.253	13.393	143.377	143.377	20.626
PCP	53	30.923	32.899	0.549	36.398	5.215	25.067	2.249
	113	87.809	82.916	7.380	65.862	5.625	65.220	1.168
	135	70.302	157.309	157.309	92.224	9.577	148.059	23.273
	149	78.040	157.031	19.182	102.580	9.304	154.516	22.127
	170	150.233	122.415	1.815	99.134	99.134	115.797	15.009
	275	95.680	124.640	124.640	175.703	49.736	129.276	1.711
		73.886	6.946	112.555	15.823	185.988	185.988	185.988
Cd	53	36.373	24.685	5.633	32.726	0.183	40.209	6.649
	113	60.670	46.651	2.490	61.417	5.832	81.906	8.256
	135	79.377	49.206	9.103	78.457	13.573	128.092	52.408
	149	89.299	61.975	9.052	85.753	14.732	142.425	55.155
	170	84.867	83.322	0.714	100.065	1.749	68.366	8.796
	275	73.168	132.815	14.871	119.790	22.932	103.958	3.634
		84.146	5.022	126.641	13.722	145.232	138.373	23.782

Appendix G

Table G.3 Carbohydrates comparisons between columns on day 276.

Column	Location	day 276	
		Avg. Carbs (µg/g dry sand)	s of duplicate
Control	Inf	173.124	0.614
	F1	45.758	1.309
	F2	38.642	6.218
	F3	28.400	4.180
	F4	27.355	12.839
	Eff	16.671	0.031
Benzene	Inf	401.335	67.644
	F1	73.214	1.026
	F2	29.628	9.336
	F3	34.774	2.161
	F4	21.372	0.475
	Eff	16.557	5.222
PCP	Inf	113.079	5.059
	F1	52.676	0.311
	F2	39.598	2.294
	F3	30.253	2.294
	F4	28.765	4.297
	Eff	27.578	1.228
Cd	Inf	123.967	2.260
	F1	32.745	3.413
	F2	28.360	3.413
	F3	17.081	3.271
	F4	23.756	0.739
	Eff	21.464	0.739

Appendix G

Table G.4 Protein comparisons between columns at F1, F2, F3, and F4.

Time (days)	F1	
	Avg. Protein (µg/g dry sand)	s of duplicate
53	751.549	26.63738
113	287.7775	17.87885
135	358.6125	37.18056
149	440.1574	100.4914
170	354.8736	7.784986
191	768.5098	32.02715
275	556.4982	18.40865

53	483.9766	212.2078
113	658.6638	63.10536
135	729.5639	158.4107
149	564.1259	47.39325
170	710.4082	83.14716
191	558.0685	50.23931
275	1017.408	126.2076

53	267.2336	24.69319
113	197.7138	42.98932
135	335.0683	4.523667
149	302.9193	12.0908
170	290.4108	58.45411
191	519.9762	14.15237
275	401.7921	20.75919

53	506.2259	40.7433
113	219.9559	7.892036
135	375.4566	20.97017
149	281.8634	56.54165
170	468.3633	10.71897
191	252.6922	10.96271
275	366.0096	98.01684

Avg. Protein (µg/g dry sand)	F2	
	s of duplicate	s of duplicate
358.9924	158.8619	
501.4163	97.12736	
385.5646	48.52994	
416.2546	39.4104	
384.0322	54.87698	
397.9063	22.61241	
846.7779	69.93084	

172.6504	80.30697
676.1576	48.78269
779.8999	326.801
786.5118	197.3292
478.2246	7.628796
726.8414	85.05718
593.0264	81.15234

120.0521	43.91432
223.4421	20.59248
342.1429	24.81703
363.124	20.55424
230.4998	0.420676
341.0472	82.08831
822.4792	109.8981

201.0469	6.909767
163.7996	17.96779
193.3141	17.08134
229.5248	24.09822
363.0444	13.55222
426.6472	5.907557
639.8551	233.3953

Avg. Protein (µg/g dry sand)	F3	
	s of duplicate	s of duplicate
280.9592	72.35256	
397.3015	11.00539	
446.4597	2.194123	
335.2552	54.04274	
453.1334	4.510925	
553.9922	93.74538	
722.2802	97.62195	

404.5982	25.92872
525.0858	4.12893
580.3152	4.915897
446.3285	6.57203
1029.869	174.2089
728.6874	0.247888
822.3113	33.80629

506.2259	40.7433
219.9559	7.892036
375.4566	20.97017
281.8634	56.54165
468.3633	10.71897
252.6922	10.96271
366.0096	98.01684

330.5305	60.14677
226.4483	33.92531
228.9445	2.461142
256.6763	82.56501
312.3755	61.78517
285.9065	55.93463
412.2211	29.6176

Avg. Protein (µg/g dry sand)	F4	
	s of duplicate	s of duplicate
347.4477	20.02637	
463.4932	50.11695	
401.0757	64.93101	
321.6774	71.00835	
494.2135	86.28043	
409.2026	5.217272	
844.1006	43.58365	

358.159	3.294052
570.1386	39.3597
778.1614	126.366
767.8389	22.85633
748.731	104.7878
572.5175	88.85228
983.915	250.4

201.0469	6.909767
163.7996	17.96779
193.3141	17.08134
229.5248	24.09822
363.0444	13.55222
426.6472	5.907557
639.8551	233.3953

387.4653	17.06545
366.7798	25.52526
377.0346	32.68537
396.7112	84.59889
499.1655	339.4488
386.5074	35.24868
481.9156	27.05127

Appendix G

Table G.4 Protein comparisons between columns on day 276.

		day 276	
Column	Location	Avg. Protein (µg/g dry sand)	s of duplicate
Control	Inf	718.8652	15.10291
	F1	164.5316	6.893512
	F2	129.9487	8.202253
	F3	87.29351	18.15576
	F4	60.94581	16.17797
	Eff	37.25882	1.30689
Benzene	Inf	2000.686	126.2877
	F1	312.4571	24.72806
	F2	66.5434	22.23694
	F3	50.65682	24.00965
	F4	474.8408	5.353862
	Eff	177.599	19.52451
PCP	Inf	474.8408	5.353862
	F1	177.599	19.52451
	F2	87.17294	9.02437
	F3	84.93179	22.46813
	F4	64.51496	22.6445
	Eff	47.54593	6.540744
Cd	Inf	433.2868	14.8843
	F1	89.36713	4.030495
	F2	112.0454	2.982941
	F3	92.53143	30.88423
	F4	22.82281	5.060061
	Eff	47.71002	11.37784

Appendix G

Table G.5a Carbohydrate to protein ratio data for port F1.

date	F1	
	Ave. (ug carb/g dry sand)	s
53	43.8204	7.395005
113	73.36129	2.377012
135	71.42207	4.895141
149	80.1887	5.400039
170	80.1887	5.400039
191	135.5669	2.199422
275	126.2145	7.921745

F1	
ug protein/g dry sand	stdev
751.549	26.63738
287.7775	17.87885
358.6125	37.18056
440.1574	100.4914
354.8736	7.784986
768.5098	32.02715
556.4982	18.40865

carbs: protein	s of quotient
0.058307	0.010054
0.254924	0.017862
0.199162	0.024753
0.182182	0.043365
0.225964	0.016004
0.176402	0.007889
0.226801	0.016091

53	30.72268	0.473642
113	108.6176	9.31648
135	119.8508	16.56772
149	129.7941	16.89287
170	129.7941	16.89287
191	132.4366	34.96426
275	205.243	23.32821

483.9766	212.2078
658.6638	63.10536
729.5639	158.4107
564.1259	47.39325
710.4082	83.14716
558.0685	50.23931
1017.408	126.2076

0.06348	0.027851
0.164906	0.021206
0.164277	0.042285
0.23008	0.035642
0.182703	0.03198
0.237312	0.066195
0.201731	0.033941

53	30.92298	6.770923
113	87.80907	18.2389
135	70.30215	17.96731
149	78.04043	18.44512
170	150.2333	25.95378
191	95.68004	7.382004
275	73.88555	0

267.2336	24.69319
197.7138	42.98932
335.0683	4.523667
302.9193	12.0908
290.4108	58.45411
519.9762	14.15237
401.7921	20.75919

0.115715	0.027501
0.444122	0.133548
0.209814	0.053698
0.257628	0.061753
0.517313	0.137218
0.184009	0.015054
0.18389	0.009501

53	36.37271	6.890532
113	60.67045	5.025584
135	79.37662	7.431843
149	89.2986	7.878312
170	84.86656	11.99458
191	73.16801	3.919145
275	84.14585	11.49152

506.2259	40.7433
219.9559	7.892036
375.4566	20.97017
281.8634	56.54165
468.3633	10.71897
252.6922	10.96271
366.0096	98.01684

0.071851	0.014789
0.27583	0.024899
0.211414	0.023049
0.316815	0.069428
0.181198	0.025943
0.289554	0.019959
0.229901	0.069111

Appendix G

Table G.5b Carbohydrate to protein ratio data for port F2.

	date	F2		F2		carbs: protein	s of quotient
		Ave. (ug carb/g dry sand)	s	ug protein/g dry sand	s		
Control	53	28.42969	5.854402	358.9924	158.8619	0.079193	0.038653
	113	80.10804	12.51077	501.4163	97.12736	0.159764	0.039753
	135	77.9604	8.566804	385.5646	48.52994	0.202198	0.033784
	149	87.2928	9.235829	416.2546	39.4104	0.20971	0.029775
	170	93.07763	4.337742	384.0322	54.87698	0.242369	0.036429
	191	134.7658	3.873379	397.9063	22.61241	0.338687	0.021569
	275	137.6444	5.901154	846.7779	69.93084	0.162551	0.015125
Benzene	53	25.31091	1.073651	172.6504	80.30697	0.146602	0.068474
	113	100.8586	7.84699	676.1576	48.78269	0.149164	0.015827
	135	169.1883	27.84878	779.8999	326.801	0.216936	0.097664
	149	177.6925	26.74988	786.5118	197.3292	0.225925	0.066103
	170	109.3801	21.85344	478.2246	7.628796	0.228721	0.045842
	191	110.3808	20.05766	726.8414	85.05718	0.151864	0.032823
	275	119.5053	16.85452	593.0264	81.15234	0.201518	0.039601
PCP	53	32.89886	0.549043	120.0521	43.91432	0.274038	0.100346
	113	82.91567	7.380091	223.4421	20.59248	0.371083	0.047545
	135	157.3092	0	342.1429	24.81703	0.459776	0.033349
	149	157.031	19.18245	363.124	20.55424	0.432445	0.058222
	170	122.4149	1.815056	230.4998	0.420676	0.531085	0.007934
	191	124.6399	0	341.0472	82.08831	0.365462	0.087965
	275	112.555	6.945726	822.4792	109.8981	0.136849	0.020141
Cd	53	24.68541	5.633472	201.0469	6.909767	0.122784	0.028337
	113	46.65133	2.489751	163.7996	17.96779	0.284807	0.034743
	135	49.20572	9.103445	193.3141	17.08134	0.254538	0.052187
	149	61.97545	9.051749	229.5248	24.09822	0.270016	0.048569
	170	83.32207	0.713962	363.0444	13.55222	0.229509	0.00879
	191	132.8147	14.8713	426.6472	5.907557	0.311299	0.035122
	275	126.6414	5.022013	639.8551	233.3953	0.197922	0.07262