

## **APPENDIX B**

**Input File of the Calibrated Water Quality (Chloride) Model:**

Final Chloride Calibration with DYNHYD5 (Version 2): 9/1/01 to 03/31/02 (577 days)

87 segmets:18 boundaries: prepared by Namsoo Suk, DRBC (June 3, 2003)

NSEG NSYS ICFL MFLG JMAS NSLN INTY ADFC DD HHMM \*\*\* A: MODEL OPTIONS

87 01 0 0 1 0 0 0.37 00 0000 1  
76 59 49 34 2 51

1  
0.01041666 577.0

1  
0.01041666 577.0

0 0 0 0 0

System By-Passes (0=model, 1=Bypass)

Water column only \*\*\* B: DISP COEFS

Dispersion Coefficients

water layer longitudinal interfaces

6 1.000 1.000

6 XA EL  
83659. 24041. 85 86  
191316. 16803. 85 84  
57259. 21563. 84 86  
118827. 14941. 84 83  
64432. 10880. 83 82  
56464. 6900. 82 81

2  
0.00 0.0 0.00

800.0

3 XA EL  
37195. 5000. 81 87  
35000. 4000. 87 17  
33597. 3000. 17 80

water layer longitudinal interfaces

2  
140.00 0.0 140.00

800.0

4 XA EL  
23834. 2714. 80 2  
29220. 2285. 2 77  
27886. 2285. 77 11  
24297. 2285. 11 78

2  
250.00 0.0 250.00

800.0

23 XA EL  
1934. 2093. 1 3  
1937. 1889. 3 4  
2054. 1528. 4 5  
2054. 1528. 5 6  
2077. 2380. 6 7  
2077. 2380. 7 8  
2057. 2926. 8 9  
2082. 3111. 9 10  
23449. 2285. 78 12  
15809. 4570. 12 13  
11017. 3120. 10 13  
2169. 5890. 12 14  
737. 2742. 14 15  
2688. 2742. 15 16  
7124. 4164. 13 18  
3199. 2742. 14 19  
7214. 4164. 13 20  
7411. 3250. 18 21  
6534. 2945. 19 20  
10306. 3352. 21 22  
7368. 4265. 20 22  
16834. 4164. 22 23  
15957. 3656. 23 24

water layer longitudinal interfaces

2  
110.00 0.0 110.00

800.0

10 XA EL  
13582. 3656. 24 25  
1475. 2844. 25 26  
987. 2844. 26 27  
377. 2844. 27 28  
119. 2844. 28 29  
856. 2844. 26 30  
13177. 3656. 25 31

water layer longitudinal interfaces

13882.	3656.	31	32							
13159.	3656.	32	33							
12857.	4062.	33	34							
2										
50.00	0.0	50.00	800.0							
47	XA	EL								water layer longitudinal interfaces
9289.	3656.	34	36							
5674.	3250.	34	35							
9574.	3656.	36	38							
406	2438	35	79							
1754.	2234.	35	37							
3800.	2234.	37	38							
3378.	1930.	38	39							
9410.	3656.	38	42							
288.	2742.	39	40							
1115.	1930.	39	41							
2334.	3656.	41	43							
9551.	3656.	42	43							
9166.	4570.	43	44							
1453.	3250.	44	45							
1313.	3250.	45	46							
934.	3250.	46	47							
7881.	3656.	44	48							
7764.	3656.	48	49							
234.	2742.	49	50							
7640.	3656.	49	51							
7787.	3148.	51	52							
1704.	1930.	52	53							
61.	2742.	53	54							
5902.	3656.	52	55							
2894.	2437.	53	55							
5500.	2949.	55	56							
254.	2745.	56	57							
5665.	2949.	56	58							
6401.	2949.	58	59							
5242.	2949.	59	60							
759.	2745.	60	61							
3867.	2745.	60	62							
3785.	2745.	62	63							
3733.	2898.	63	64							
332.	1930.	64	65							
3994.	2898.	64	66							
3347.	3356.	66	68							
1464.	2389.	66	67							
1474.	2389.	67	68							
2919.	2949.	68	69							
2629.	3305.	69	70							
2655.	3660.	70	71							
2134.	2745.	71	72							
231.	1830.	72	73							
1645.	2288.	72	74							
1330.	2438.	74	75							
623.	2438.	75	76							
2										
30.00	0.0	30.00	800.0							
0	0									System bypasses for dispersive exchanges
1	0	800.0	+ *	+ *	+ *	+ *	+ *			*** C: VOLUMES ***
1000.	1.000			Volume (cu m)	a	b	c	d		
1	0	1		5308.	0.00	0.00	0.00	0.00		
2	0	1		66097.	0.00	0.00	0.00	0.00		
3	0	1		4170.	0.00	0.00	0.00	0.00		
4	0	1		3570.	0.00	0.00	0.00	0.00		
5	0	1		3190.	0.00	0.00	0.00	0.00		
6	0	1		4080.	0.00	0.00	0.00	0.00		
7	0	1		4970.	0.00	0.00	0.00	0.00		
8	0	1		5540.	0.00	0.00	0.00	0.00		
9	0	1		6310.	0.00	0.00	0.00	0.00		
10	0	1		6510.	0.00	0.00	0.00	0.00		

11	0	1	58300.	0.00	0.00	0.00	0.00
12	0	1	74500.	0.00	0.00	0.00	0.00
13	0	1	63800.	0.00	0.00	0.00	0.00
14	0	1	11100.	0.00	0.00	0.00	0.00
15	0	1	6360.	0.00	0.00	0.00	0.00
16	0	1	11200.	0.00	0.00	0.00	0.00
17	0	1	126445.	0.00	0.00	0.00	0.00
18	0	1	24800.	0.00	0.00	0.00	0.00
19	0	1	11100.	0.00	0.00	0.00	0.00
20	0	1	39600.	0.00	0.00	0.00	0.00
21	0	1	20700.	0.00	0.00	0.00	0.00
22	0	1	59700.	0.00	0.00	0.00	0.00
23	0	1	60800.	0.00	0.00	0.00	0.00
24	0	1	49800.	0.00	0.00	0.00	0.00
25	0	1	50100.	0.00	0.00	0.00	0.00
26	0	1	3830.	0.00	0.00	0.00	0.00
27	0	1	1810.	0.00	0.00	0.00	0.00
28	0	1	992.	0.00	0.00	0.00	0.00
29	0	1	783.	0.00	0.00	0.00	0.00
30	0	1	883.	0.00	0.00	0.00	0.00
31	0	1	48400.	0.00	0.00	0.00	0.00
32	0	1	47000.	0.00	0.00	0.00	0.00
33	0	1	40800.	0.00	0.00	0.00	0.00
34	0	1	35700.	0.00	0.00	0.00	0.00
35	0	1	6520.	0.00	0.00	0.00	0.00
36	0	1	28600.	0.00	0.00	0.00	0.00
37	0	1	1840.	0.00	0.00	0.00	0.00
38	0	1	25900.	0.00	0.00	0.00	0.00
39	0	1	4030.	0.00	0.00	0.00	0.00
40	0	1	1680.	0.00	0.00	0.00	0.00
41	0	1	3980.	0.00	0.00	0.00	0.00
42	0	1	20500.	0.00	0.00	0.00	0.00
43	0	1	39900.	0.00	0.00	0.00	0.00
44	0	1	41200.	0.00	0.00	0.00	0.00
45	0	1	5520.	0.00	0.00	0.00	0.00
46	0	1	6230.	0.00	0.00	0.00	0.00
47	0	1	2370.	0.00	0.00	0.00	0.00
48	0	1	24800.	0.00	0.00	0.00	0.00
49	0	1	31300.	0.00	0.00	0.00	0.00
50	0	1	541.	0.00	0.00	0.00	0.00
51	0	1	24700.	0.00	0.00	0.00	0.00
52	0	1	16300.	0.00	0.00	0.00	0.00
53	0	1	2310.	0.00	0.00	0.00	0.00
54	0	1	502.	0.00	0.00	0.00	0.00
55	0	1	18700.	0.00	0.00	0.00	0.00
56	0	1	17400.	0.00	0.00	0.00	0.00
57	0	1	356.	0.00	0.00	0.00	0.00
58	0	1	18200.	0.00	0.00	0.00	0.00
59	0	1	19000.	0.00	0.00	0.00	0.00
60	0	1	16200.	0.00	0.00	0.00	0.00
61	0	1	2050.	0.00	0.00	0.00	0.00
62	0	1	10000.	0.00	0.00	0.00	0.00
63	0	1	11400.	0.00	0.00	0.00	0.00
64	0	1	9460.	0.00	0.00	0.00	0.00
65	0	1	705.	0.00	0.00	0.00	0.00
66	0	1	10900.	0.00	0.00	0.00	0.00
67	0	1	1160.	0.00	0.00	0.00	0.00
68	0	1	10400.	0.00	0.00	0.00	0.00
69	0	1	8010.	0.00	0.00	0.00	0.00
70	0	1	9950.	0.00	0.00	0.00	0.00
71	0	1	10200.	0.00	0.00	0.00	0.00
72	0	1	5520.	0.00	0.00	0.00	0.00
73	0	1	110.	0.00	0.00	0.00	0.00
74	0	1	3210.	0.00	0.00	0.00	0.00
75	0	1	2810.	0.00	0.00	0.00	0.00
76	0	1	659.	0.00	0.00	0.00	0.00
77	0	1	59500.	0.00	0.00	0.00	0.00
78	0	1	54500.	0.00	0.00	0.00	0.00

79	0	1	1390.	0.00	0.00	0.00	0.00
80	0	1	72418.	0.00	0.00	0.00	0.00
81	0	1	252928.	0.00	0.00	0.00	0.00
82	0	1	436156.	0.00	0.00	0.00	0.00
83	0	1	1212157.	0.00	0.00	0.00	0.00
84	0	1	2370000.	0.00	0.00	0.00	0.00
85	0	1	4130000.	0.00	0.00	0.00	0.00
86	0	1	916000.	0.00	0.00	0.00	0.00
87	0	1	169244.	0.00	0.00	0.00	0.00

3 1temp.HYD + \* + \* + \* + \* + \*\*\* D: FLOWS \*\*  
0 0 0 Bypass options for flow transport in each system  
18 \*\*\*\* System 1 Dummy Conservative Chem \*\*\* E: BCs \*\*\*  
1.0 1.0 Scale and conversion factor  
1 2 Downstream BC-C&D  
550.000 0.0 550.000 800.0 Downstream BC-Mouth  
85 2  
15000.0 0.0 15000.0 800.0 Salem R.  
16 2  
21.0000 0.0 21.0000 800.0 Christina R.  
29 2  
22.0000 0.0 22.0000 800.0 Brandywine R.  
30 2  
21.0000 0.0 21.0000 800.0 Darby Cr.  
40 2  
18.0000 0.0 18.0000 800.0 Schuylkill R.  
47 2  
34.0000 0.0 34.0000 800.0 Newton Cr.  
50 2  
18.0000 0.0 18.0000 800.0 Cooper R.  
54 2  
22.0000 0.0 22.0000 800.0 Pennsauken Cr.  
57 2  
24.0000 0.0 24.0000 800.0 Torresdale Intake  
60 2  
0.0000 0.0 0.0000 800.0 Rancocas Cr.  
61 2  
7.00000 0.0 7.00000 800.0 Neshaminy Cr.  
65 2  
18.0000 0.0 18.0000 800.0 Bristol + Burlington Intake  
66 2  
0.0000 0.0 0.0000 800.0 Lower Bucks Intake  
69 2  
0.0000 0.0 0.0000 800.0 Crosswicks Cr.  
73 2  
15.0000 0.0 15.0000 800.0 Upstream at Trenton  
76 2  
21.0000 0.0 21.0000 800.0 Raccoon Cr.  
79 2  
18.0000 0.0 18.0000 800.0  
0 0 \*\*\*\* System 1 - Consrv. Chem. \*\*\* F: LOADS \*\*\*  
0 (No parameter) (\*\* NO NPS LOADS \*\*\*)  
\*\*\* G:PARAMETERS \*\*\*  
Model constants, general and for each system (see pg 218-232) \*\* H: CONSTANTS \*\*  
Cnsrv. CHM 0 (No reactions/ conservative for system 1)  
Cnsrv. CHM 0 (zero constants for the Dummy Conservative Chemical)  
0 + \* Time Functions \* + \* \*\*\* I: TIME FUNCTIONS \*\*  
Initial Condition Chloride conc, mg/l 3 0.0 1.0E12 \*\* J: INIT CONC \*\*\*  
1: 550.0 1.00 2: 5500.0 1.00 3: 550.0 1.00  
4: 550.0 1.00 5: 550.0 1.00 6: 550.0 1.00  
7: 550.0 1.00 8: 550.0 1.00 9: 550.0 1.00  
10: 550.0 1.00 11: 5500.0 1.00 12: 5000.0 1.00  
13: 3500.0 1.00 14: 3500.0 1.00 15: 21.0 1.00  
16: 21.0 1.00 17: 5000.0 1.00 18: 3000.0 1.00  
19: 2000.0 1.00 20: 2000.0 1.00 21: 1900.0 1.00  
22: 1900.0 1.00 23: 1600.0 1.00 24: 1600.0 1.00  
25: 1200.0 1.00 26: 100.0 1.00 27: 22.0 1.00  
28: 22.0 1.00 29: 22.0 1.00 30: 22.0 1.00  
31: 500.0 1.00 32: 500.0 1.00 33: 400.0 1.00

34:	400.0	1.00	35:	300.0	1.00	36:	200.0	1.00
37:	200.0	1.00	38:	200.0	1.00	39:	150.0	1.00
40:	20.0	1.00	41:	150.0	1.00	42:	150.0	1.00
43:	100.0	1.00	44:	50.0	1.00	45:	34.0	1.00
46:	34.0	1.00	47:	34.0	1.00	48:	50.0	1.00
49:	50.0	1.00	50:	18.0	1.00	51:	50.0	1.00
52:	21.0	1.00	53:	21.0	1.00	54:	21.0	1.00
55:	21.0	1.00	56:	21.0	1.00	57:	21.0	1.00
58:	21.0	1.00	59:	21.0	1.00	60:	21.0	1.00
61:	21.0	1.00	62:	21.0	1.00	63:	21.0	1.00
64:	21.0	1.00	65:	21.0	1.00	66:	21.0	1.00
67:	21.0	1.00	68:	21.0	1.00	69:	21.0	1.00
70:	21.0	1.00	71:	21.0	1.00	72:	21.0	1.00
73:	21.0	1.00	74:	21.0	1.00	75:	21.0	1.00
76:	21.0	1.00	77:	5500.0	1.00	78:	5000.0	1.00
79:	21.0	1.00	80:	5500.0	1.00	81:	5500.0	1.00
82:	7000.0	1.00	83:	11000.	1.00	84:	13000.	1.00
85:	15000.	1.00	86:	14000.	1.00	87:	5500.0	1.00