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**Assessing the Risk Associated with Increasing Bromide in Drinking Water Sources in the Monongahela River in Pennsylvania**

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**Supplemental Data**

Table S1. Interspecies Correlation Coefficients Determined for Field Sampling THMs and Monte Carlo Simulated THMs

When Bromide Ranges 10-20 µg/L									
Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.461	1			BDCM	0.450	1		
DBCM	0.191	0.283	1		DBCM	0.175	0.281	1	
Bromoform	-0.362	0.0433	0.245	1	Bromoform	-0.353	0.0545	0.247	1

When Bromide Ranges 20-40 µg/L									
Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.613	1			BDCM	0.606	1		
DBCM	0.475	0.501	1		DBCM	0.468	0.500	1	
Bromoform	0.443	0.335	0.231	1	Bromoform	0.435	0.331	0.238	1

When Bromide Ranges 40-60 µg/L									
Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.613	1			BDCM	0.606	1		
DBCM	0.475	0.501	1		DBCM	0.468	0.500	1	
Bromoform	0.443	0.335	0.231	1	Bromoform	0.435	0.331	0.238	1

**SUPPLEMENTAL DATA**

Chloroform	1				Chloroform	1			
BDCM	0.934	1			BDCM	0.934	1		
DBCM	0.655	0.711	1		DBCM	0.659	0.715	1	
Bromoform	0.356	0.466	0.664	1	Bromoform	0.360	0.470	0.665	1

**When Bromide Ranges 60-80 µg/L**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.881	1			BDCM	0.883	1		
DBCM	0.578	0.717	1		DBCM	0.590	0.724	1	
Bromoform	0.121	0.342	0.215	1	Bromoform	0.129	0.346	0.221	1

**When Bromide Ranges 80-100 µg/L**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.532	1			BDCM	0.546	1		
DBCM	-0.0338	0.369	1		DBCM	-0.0389	0.365	1	
Bromoform	-0.0469	0.420	0.453	1	Bromoform	-0.0505	0.415	0.453	1

**When Bromide Ranges 100-120 µg/L**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.366	1			BDCM	0.364	1		
DBCM	0.222	0.341	1		DBCM	0.217	0.340	1	
Bromoform	0.406	0.238	0.773	1	Bromoform	0.399	0.228	0.774	1

**When Bromide > 120 µg/L**

Field Sampling THMs					Monte Carlo simulated THMs				
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**SUPPLEMENTAL DATA**

	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
Chloroform	1				Chloroform	1			
BDCM	0.773	1			BDCM	0.774	1		
DBCM	0.443	0.557	1		DBCM	0.445	0.561	1	
Bromoform	0.0231	0.543	0.330	1	Bromoform	0.0295	0.545	0.338	1

Table S2. Parameter Estimates and Estimated Mean Concentration for Each THM Species in Each of the Bromide Ranges. The Correlation Parameters  $P_{i,j}$  ( $i, j = 1, 4$ ) Are Shown in Table 1. Parameters Are Compared with Field Sampling THMs Data and Monte Carlo Simulation THMs Data

**When Bromide Ranges 10-20  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ ( $i = 1, 4$ )	9.56	8.42	6.09	3.90	$a_i$ ( $i = 1, 4$ )	9.56	8.41	6.09	3.90
$b_i$ ( $i = 1, 4$ )	0.904	1.66	2.60	1.40	$b_i$ ( $i = 1, 4$ )	0.904	1.66	2.60	1.40
$\mu_{i,k}$ ( $k = 1, 7$ ) in $\mu\text{g/L}$	21.4	17.8	13.0	0.132	Simulated Mean by Monte Carlo	21.4	17.7	13.0	0.132

**When Bromide Ranges 20-40  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ ( $i = 1, 4$ )	9.77	8.36	5.79	4.98	$a_i$ ( $i = 1, 4$ )	9.77	8.36	5.79	4.98
$b_i$ ( $i = 1, 4$ )	1.01	2.35	2.98	2.03	$b_i$ ( $i = 1, 4$ )	1.01	2.35	2.98	2.03
$\mu_{i,k}$ ( $k = 1, 7$ ) in $\mu\text{g/L}$	29.3	67.7	29.3	1.15	Simulated Mean by Monte Carlo	29.3	67.7	27.8	1.15

**When Bromide Ranges 40-60  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ ( $i = 1, 4$ )	9.61	8.96	7.61	5.62	$a_i$ ( $i = 1, 4$ )	9.61	8.96	7.61	5.62

**SUPPLEMENTAL DATA**

$b_i$ (i = 1,4)	1.39	2.07	2.87	2.21	$b_i$ (i = 1,4)	1.39	2.07	2.87	2.22
$\mu_{i,k}$ (k = 1,7) in $\mu\text{g/L}$	39.5	66.4	125	3.24	Simulated Mean by Monte Carlo	39.6	65.1	111	3.15

**When Bromide Ranges 60-80  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ (i = 1,4)	9.69	9.25	8.29	5.96	$a_i$ (i = 1,4)	9.69	9.24	8.29	5.96
$b_i$ (i = 1,4)	0.884	0.943	1.72	2.10	$b_i$ (i = 1,4)	0.884	0.943	1.72	2.10
$\mu_{i,k}$ (k = 1,7) in $\mu\text{g/L}$	24.0	16.2	17.5	3.52	Simulated Mean by Monte Carlo	24.0	16.2	17.5	3.52

**When Bromide Ranges 80-100  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ (i = 1,4)	9.71	9.31	8.60	7.27	$a_i$ (i = 1,4)	9.71	9.31	8.60	7.27
$b_i$ (i = 1,4)	0.664	0.737	2.03	1.81	$b_i$ (i = 1,4)	0.664	0.737	2.03	1.81
$\mu_{i,k}$ (k = 1,7) in $\mu\text{g/L}$	20.6	14.5	42.4	7.36	Simulated Mean by Monte Carlo	20.6	14.5	42.4	7.36

**When Bromide Ranges 100-120  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ (i = 1,4)	9.42	8.70	8.51	6.91	$a_i$ (i = 1,4)	9.42	8.70	8.51	6.91
$b_i$ (i = 1,4)	1.35	2.50	2.27	2.00	$b_i$ (i = 1,4)	1.35	2.50	2.27	2.00
$\mu_{i,k}$ (k = 1,7) in $\mu\text{g/L}$	30.7	136	65.7	7.48	Simulated Mean by Monte Carlo	30.6	128	66.0	7.52

**When Bromide > 120  $\mu\text{g/L}$**

Field Sampling THMs					Monte Carlo simulated THMs				
	Chloroform	BDCM	DBCM	Bromoform		Chloroform	BDCM	DBCM	Bromoform
$a_i$ (i = 1,4)	9.70	9.67	9.00	7.53	$a_i$ (i = 1,4)	9.70	9.67	9.00	7.53

**SUPPLEMENTAL DATA**

$b_i (i = 1,4)$	1.00	0.935	2.22	2.10	$b_i (i = 1,4)$	1.00	0.935	2.22	2.10
$\mu_{i,k} (k = 1,7)$ in $\mu\text{g/L}$	26.8	24.5	95.6	16.8	Simulated Mean by Monte Carlo	26.8	24.5	92.8	16.8

Table S3. Statistical Summary (Median, Minimum and Maximum Values) of Quarterly Bromide and DBP Concentrations at 6 Drinking Water Plants. Minimum and Maximum Values Are Shown in the Parentheses.

	Quarters	Bromide ( $\mu\text{g/L}$ )	Chloroform ( $\mu\text{g/L}$ )	BDCM ( $\mu\text{g/L}$ )	DBCM ( $\mu\text{g/L}$ )	Bromoform ( $\mu\text{g/L}$ )	TTHM ( $\mu\text{g/L}$ )	HAA <sub>5</sub> ( $\mu\text{g/L}$ )	HAA <sub>9</sub> ( $\mu\text{g/L}$ )
Site A	Q4, 2010	51 (12, 99)	9.15 (0.943, 10.5)	4.12 (1.09, 11.3)	5.94 (2.54, 12.2)	1.76 (1.19, 2.05)	22.6 (7.16, 33.8)	4.94 (1.72, 21.5)	14.4 (3.85, 40)
	Q1, 2011	ND <sup>1</sup>	5.61 (3.46, 7.77)	2.47 (2.28, 2.67)	1.6 (0.948, 2.45)	0.921 (0.921, 0.921)	10.1 (8.36, 11.9)	2.36 (1.98, 4.67)	5.76 (3.53, 13)
	Q2, 2011	ND	13.9 (4.03, 15.4)	6.13 (3.55, 8.92)	2.14 (2.04, 2.23)	1.13 (0.099, 1.24)	22.6 (9.82, 23.8)	11.4 (5.52, 27.2)	21.6 (7.6, 30.9)

**SUPPLEMENTAL DATA**

	Q3, 2011	15 (ND, 66)	15.8 (6.27, 18.4)	9.60 (3.19, 11.3)	2.24 (1.75, 3.09)	1.31 (0.80, 1.40)	31.0 (12.5, 31.2)	11.1 (6.88, 13.8)	19.2 (16.6, 28)
	Q4, 2011	12 (ND, 104)	7.82 (6.85, 11.3)	30.6 (20.6, 40.7)	2.25 (2.25, 2.25)	0.810 (0.06, 1.22)	32.8 (11.3, 47.6)	NA <sup>2</sup>	NA
	Q1, 2012	ND	8.80 (7.70, 9.82)	6.90 (6.90, 6.91)	ND	0.625 (0.170, 1.08)	12.8 (8.79, 16.9)	NA	NA
	Q2, 2012	21.7 (ND, 36.5)	14.1 (12.7, 15.4)	7.38 (6.11, 8.65)	ND	1.20 (1.05, 1.35)	22.6 (20.1, 25.1)	NA	NA
	Q3, 2012	ND	15.9 (11.3, 20.9)	18.25 (8.00, 53.1)	5.76 (3.17, 8.35)	1.43 (1.10, 2.09)	36.0 (22.3, 65.6)	NA	NA
Site B	Q4, 2009	10 (ND, 31.7)	21.4 (10.2, 25.6)	5.29 (4.64, 8.3)	0.531 (ND, 2.47)	ND	27.9 (17.7, 32)	NA	NA
	Q1, 2010	28.1 (ND, 51.1)	3.71 (1.76, 7.78)	0.78 (0.31, 1.57)	ND	ND	5.28 (2.3, 8.72)	4.06 (2.85, 9.85)	7.93 (4.82,13)
	Q2, 2010	23.6 (12.5, 93)	13.8 (7, 30.2)	6.45 (0.38, 14.1)	1.10 (ND, 11.6)	ND	31.6 (8.48, 50.8)	8 (4.74,14.3)	19.1 (13.1,30.4)
	Q3, 2010	85.5 (62.1, 171)	11.2 (1.22, 25.7)	9.25 (2.9, 12.8)	9.01 (ND, 33.3)	2.38 (ND, 11.5)	32 (7.51, 83.4)	7.33 (3.74,21.8)	27.5 (8.97,38.5)
	Q4, 2010	56 (ND, 80.4)	19.9 (3.1, 42.9)	9.42 (1.89, 21.9)	8.15 (0.99, 10.9)	0.74 (ND, 2.2)	38.2 (5.97, 76.4)	6.72 (4.43,19)	13.1 (7.85,28.6)
	Q1, 2011	34 (ND, 54.2)	4.87 (2.25, 11.4)	1.86 (1.14, 2.60)	ND	ND	7.95 (3.4, 13.9)	12.9 (3.87,20)	21.3 (14.4,30)
	Q2, 2011	19 (ND, 90)	17.8 (12.1, 28.2)	4.57 (3.61, 15.4)	2.04 (1.09, 3.1)	0.99 (ND, 1.4)	23.3 (18.9, 48.0)	9.51 (5.27,15.8)	22.6 (11.3,33.7)
	Q3, 2011	55 (ND, 225)	25.9 (6.07, 36.3)	10.7 (3.48, 20.1)	1.89 (ND, 9.7)	1.14 (0.05, 1.41)	39.7 (10.7, 58.4)	10.6 (6.89, 15.6)	25.9 (20.5,34.9)
	Q4, 2011	26 (ND, 28)	9.9 (8.03, 13.3)	6.24 (5.83, 9.4)	ND	0.68 (0.06, 1.15)	15.8 (14.9, 23.8)	NA	NA
Site C	Q4, 2009	ND	62.9 (45.2, 80.6)	22.8 (19.1, 26.5)	6.35 (1.35, 11.3)	ND	92.1 (83.1, 101)	NA	NA
	Q1, 2010	30.5 (12.6,48)	12.2 (7.52, 34.7)	6.5 (4.68, 9.3)	1.45 (0.79, 5.4)	ND (ND, 1.2)	21.7 (18.2, 45.3)	5.66 (ND, 9.94)	15.1 (ND, 18.1)

**SUPPLEMENTAL DATA**

	Q2, 2010	30.5 (ND, 274)	47.1 (20.6, 116)	28.4 (6, 44.8)	8.1 (2.2, 26.1)	ND (ND, 8.5)	88.1 (33, 174)	7.45 (5.22,13.7)	24.1 (15.9, 30.3)
	Q3, 2010	106 (82.4, 234)	14.5 (4.17,42.6)	17.2 (7.91, 52.4)	20.8 (9.88, 45.1)	4.84 (2.33,11.2)	59.4 (27.9, 149)	12.5 (3.69,20.9)	33.4 (14.8, 45.9)
	Q4, 2010	60 (ND, 100)	27.5 (7.0, 53.5)	28 (5.38, 44.9)	19.1 (2.53, 29.5)	2.91 (1.55,8.7)	77.7 (16.5, 118)	6.09 (5.2, 21.5)	18.6 (15.5, 40.2)
	Q1, 2011	53 (20, 67.8)	7.7 (7.13, 39.6)	7.3 (5.57, 11.8)	3.17 (2.8, 4)	0.12 (ND, 1.4)	20.3 (15.7, 54.7)	5.27 (4.48,11.0)	14.4 (11.7, 23.9)
	Q2, 2011	16.3 (ND, 94)	34.7 (16.9, 61)	9.61 (8.67, 31.8)	2.99 (1.48, 19.1)	ND (ND, 2.2)	46.5 (29.6, 95.4)	8.78 (5.27,17.1)	20.6 (13.3, 42.8)
Site D	Q4, 2009	10.3 (ND, 17.1)	72.4 (65.3, 79.7)	16.9 (16, 17.8)	0.656 (ND, 1.31)	ND	90.1 (84.4,95.7)	NA	NA
	Q1, 2010	8.7 (ND, 61.6)	18.2 (3.5, 45.7)	6.8 (2.29, 11)	1.69 (1.14, 2)	ND	26.2 (7.4, 58.7)	5.52 (4.07, 6.44)	11.7 (8.13, 22.6)
	Q2, 2010	48.8 (ND, 599)	16.5 (12.3, 61)	16.9 (3.76, 34.9)	10.1 (ND, 15)	ND	47 (18.1, 108)	12.3 (7.42, 24.6)	27.2 (19.3,43.7)
	Q3, 2010	145 (48, 234)	25 (3.58, 61.6)	26.8 (11, 66.4)	31.2 (ND, 34.9)	5.21 (1.1, 11.9)	90.8 (21, 189)	5.44 (3.55, 30.3)	28.1 (10.3,58.8)
	Q4, 2010	185 (94, 254)	24 (8.6, 51)	31 (23.7, 57)	42.8 (29.4, 66.4)	5.01 (3.79, 14)	97 (87.2, 160)	14 (5.07, 20.8)	25.2 (14.5,29.5)
	Q1, 2011	19 (ND, 191)	11.1 (6.47, 34.3)	9.7 (6.11, 11.4)	3.39 (3.34, 57)	1.43 (0.1, 1.61)	27 (17.4,49.1)	5.78 (3.42, 12.8)	9.66 (5.21,21.1)
	Q2, 2011	39 (ND, 70)	58.4 (37.7, 71.5)	27 (11.7, 58.4)	2.96 (ND, 11.4)	1.39 (0.08, 1.65)	99.8 (52.4, 131)	9.99 (3.87, 24.9)	23.9 (14.4,56.3)
	Q3, 2011	21 (ND, 62)	48.6 (20.3, 103)	16 (ND, 71.2)	ND (ND, 58.4)	1.06 (ND, 1.71)	68.2 (32.3, 186)	11.5 (4.56, 32.2)	25.4 (13.1,52.9)
	Q4, 2011	143 (143,143)	22.4 (22.4, 22.4)	9.38 (9.38, 9.38)	2.34 (2.34, 2.34)	0.08 (0.08, 0.08)	34 (34.2, 160)	NA	NA
	Q1, 2012	2.3 (2.3, 2.3)	12.4 (12.4, 12.4)	ND	ND	ND	12.4 (12.4, 12.4)	NA	NA
Q2, 2012	36.5 (ND, 97.3)	19.5 (17.2, 45.1)	16.6 (9.19, 17.1)	ND (ND, 5.3)	0.07 (0.06, 0.08)	42 (26.5, 61.7)	NA	NA	
Q3, 2012	6.5 (ND, 63.8)	47 (29.2, 60.2)	55 (15.8, 111)	8.72 (ND, 16.1)	1.42 (1.02, 2.86)	112 (49.6, 173)	NA	NA	

**SUPPLEMENTAL DATA**

Site E	Q2, 2010	25.1 (6.77, 61)	5.7 (2.16, 12.7)	0.42 (ND, 9.4)	ND (ND, 8.69)	ND (ND, 0.5)	6.8 (2.16, 31.2)	6.83 (3.42, 9.26)	15.4 (4.87, 19.7)
	Q3, 2010	130 (63, 153)	8.13 (0.15, 11.6)	3.75 (1.82, 5.68)	1.82 (0.62, 3.69)	ND (ND, 0.91)	13.8 (4.14, 19.2)	7.74 (2.74, 23)	15.8 (6.48, 26.5)
	Q4, 2010	85.8 (46.6, 99)	11.7 (4.2, 17.8)	4.36 (1.28, 6.88)	2.83 (0.49, 7.04)	0.53 (ND, 9.42)	23.4 (5.98, 30.1)	7.11 (3.31, 25.6)	17.7 (5.52, 35.7)
	Q1, 2011	ND (5.4, 43.8)	3.16 (0.27, 18.2)	0.46 (ND, 2.46)	ND (ND, 0.85)	ND	4.46 (0.27, 20.7)	7.44 (3.96, 10.1)	13 (6.8, 13.8)
	Q2, 2011	ND (3.87, 23)	20.1 (9.78, 61)	3.49 (1.97, 8.54)	1.31 (ND, 1.93)	ND (ND, 1)	25.4 (12.7, 70.6)	6.97 (4.09, 20.4)	17 (10.3, 37.7)
	Q3, 2012	ND (2.99, 49)	19.2 (8.49, 26.8)	14.3 (9.15, 106)	ND (ND, 8.93)	0.65 (ND, 1.41)	39.8 (18.3, 128)	NA	NA
Site F	Q2, 2010	36 (ND, 67)	65.7 (31.6, 77.7)	32.5 (20.8, 34.5)	14.7 (12, 19)	0.33 (ND, 6.25)	117 (64.5, 128)	7.4 (4.74, 13.3)	24.7 (18.6, 37)
	Q3, 2010	102 (33, 127)	26.2 (8.2, 51.6)	20.9 (11.6, 32.9)	20.1 (ND, 30.9)	6.17 (1.84, 6.86)	81.6 (25.1, 107)	8.17 (4.87, 11.9)	14.2 (8.35, 33.7)
	Q4, 2010	74.6 (36, 136)	31.1 (18, 34.1)	31.7 (18.5, 38.6)	31.1 (21.9, 34.9)	5.39 (4.5, 6.32)	99.7 (62.9, 113)	7.5 (5.18, 11)	18.1 (12.3, 24.2)
	Q1, 2011	88.5 (ND, 89)	21.2 (16.9, 87.6)	17 (11.9, 19)	5.39 (5.09, 6.6)	1.72 (1.37, 8.64)	46.6 (35.2, 121)	4.78 (3.87, 5.43)	14.4 (10.6, 20)
	Q2, 2011	14.1 (ND, 148)	68.6 (37.8, 96.6)	24.1 (15.8, 32.9)	6.88 (5.77, 16.9)	0.98 (0.55, 5.87)	110 (60.5, 127)	10.6 (3.38, 17.8)	19.3 (17, 33.2)
	Q3, 2011	37 (ND, 240)	37.8 (18, 67.6)	18.5 (15.8, 20)	6.7 (5.77, 21.9)	1.06 (0.89, 4.5)	62.9 (60.5, 95.2)	13 (4.66, 17.6)	22.6 (14.7, 29.5)
	Q2, 2012	19.2 (19.2, 19.2)	19.8 (19.8, 19.8)	11.3 (11.3, 11.3)	ND	ND	31.1 (31.1, 31.1)	NA	NA
	Q3, 2012	6.64 (ND, 58.5)	31.9 (30.3, 92.2)	19.6 (17.1, 49.4)	ND (ND, 9.3)	ND (ND, 1)	51.5 (48.5, 151)	NA	NA

<sup>1</sup> ND indicates non-detected.

<sup>2</sup> NA indicates not applicable.



Table S4. Oral Cancer Risk Values (Mean  $\pm$  Standard Deviation) for THM Species on a Quarterly Basis at Site D. The Data in This Table Are Plotted in Figure 4

**SUPPLEMENTAL DATA**

Quarters	Chloroform Oral Cancer Risk	BDCM Oral Cancer Risk	DBCM Oral Cancer Risk	Bromoform Oral Cancer Risk
Q4, 2009	$1.26 \times 10^{-5} \pm 1.78 \times 10^{-6}$	$3 \times 10^{-5} \pm 2.3 \times 10^{-6}$	$1.57 \times 10^{-6} \pm 2.23 \times 10^{-6}$	0
Q1, 2010	$3.92 \times 10^{-6} \pm 3.73 \times 10^{-6}$	$1.19 \times 10^{-5} \pm 7.71 \times 10^{-6}$	$3.8 \times 10^{-6} \pm 1.02 \times 10^{-6}$	0
Q2, 2010	$4.56 \times 10^{-6} \pm 3.04 \times 10^{-6}$	$2.87 \times 10^{-5} \pm 1.76 \times 10^{-5}$	$1.98 \times 10^{-5} \pm 1.32 \times 10^{-5}$	$9.75 \times 10^{-8} \pm 1.62 \times 10^{-7}$
Q3, 2010	$4.01 \times 10^{-6} \pm 2.79 \times 10^{-6}$	$5.12 \times 10^{-5} \pm 2.63 \times 10^{-5}$	$6.59 \times 10^{-5} \pm 4 \times 10^{-5}$	$1.35 \times 10^{-6} \pm 8.74 \times 10^{-7}$
Q4, 2010	$4.68 \times 10^{-6} \pm 3.31 \times 10^{-6}$	$6.32 \times 10^{-5} \pm 2.64 \times 10^{-5}$	$9.81 \times 10^{-5} \pm 1.08 \times 10^{-6}$	$1.57 \times 10^{-6} \pm 1.08 \times 10^{-6}$
Q1, 2011	$3.01 \times 10^{-6} \pm 2.59 \times 10^{-6}$	$1.61 \times 10^{-5} \pm 4.78 \times 10^{-6}$	$8.98 \times 10^{-6} \pm 1.58 \times 10^{-6}$	$2.35 \times 10^{-7} \pm 1.86 \times 10^{-7}$
Q2, 2011	$9.74 \times 10^{-6} \pm 2.98 \times 10^{-6}$	$5.73 \times 10^{-5} \pm 4.22 \times 10^{-6}$	$1.26 \times 10^{-5} \pm 1.61 \times 10^{-5}$	$2.34 \times 10^{-7} \pm 1.09 \times 10^{-7}$
Q3, 2011	$9.15 \times 10^{-6} \pm 4.48 \times 10^{-6}$	$4.2 \times 10^{-5} \pm 4.01 \times 10^{-6}$	$1.11 \times 10^{-5} \pm 2.08 \times 10^{-5}$	$2.29 \times 10^{-7} \pm 1.15 \times 10^{-7}$
Q4, 2011	$3.9 \times 10^{-6} \pm 0$	$1.66 \times 10^{-5} \pm 0$	$5.62 \times 10^{-6} \pm 0$	$1.81 \times 10^{-8} \pm 0$
Q2, 2012	$4.75 \times 10^{-6} \pm 2.7 \times 10^{-6}$	$2.53 \times 10^{-5} \pm 7.86 \times 10^{-6}$	$4.21 \times 10^{-6} \pm 7.29 \times 10^{-6}$	$1.58 \times 10^{-8} \pm 2.26 \times 10^{-9}$
Q3, 2012	$7.67 \times 10^{-6} \pm 2.1 \times 10^{-6}$	$9.94 \times 10^{-5} \pm 5.51 \times 10^{-5}$	$1.98 \times 10^{-5} \pm 1.9 \times 10^{-5}$	$3.84 \times 10^{-7} \pm 1.69 \times 10^{-7}$

Figure S1. Quarterly bromide concentrations and individual THM species levels in finished water of Site A

**SUPPLEMENTAL DATA**

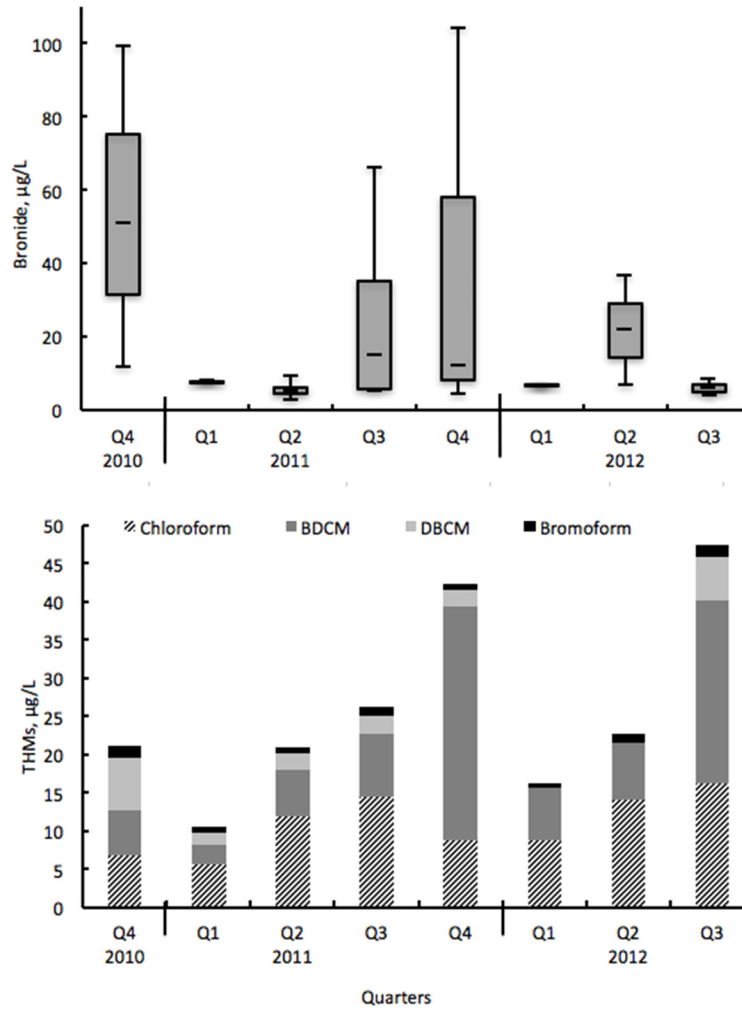


Figure S2. Quarterly bromide concentrations and individual THM species levels in finished water of Site B

**SUPPLEMENTAL DATA**

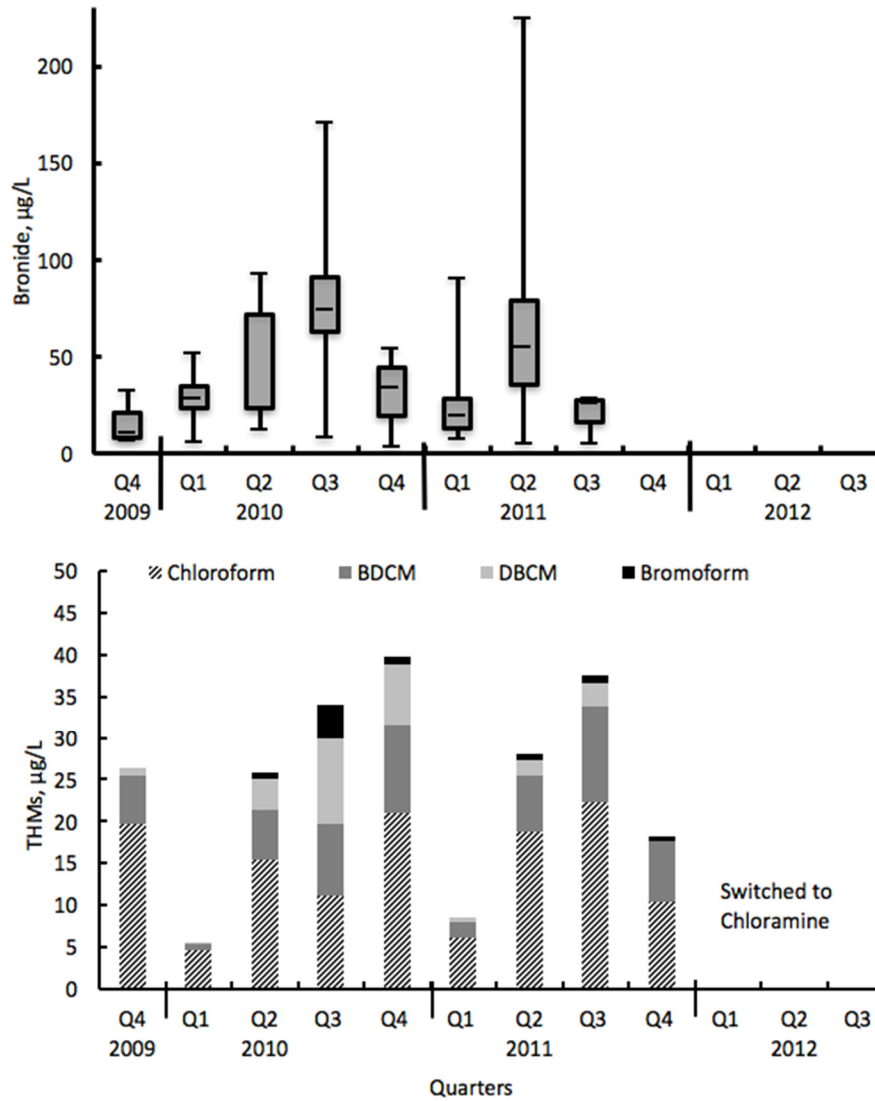


Figure S3. Quarterly bromide concentrations and individual THM species levels in finished water of Site C

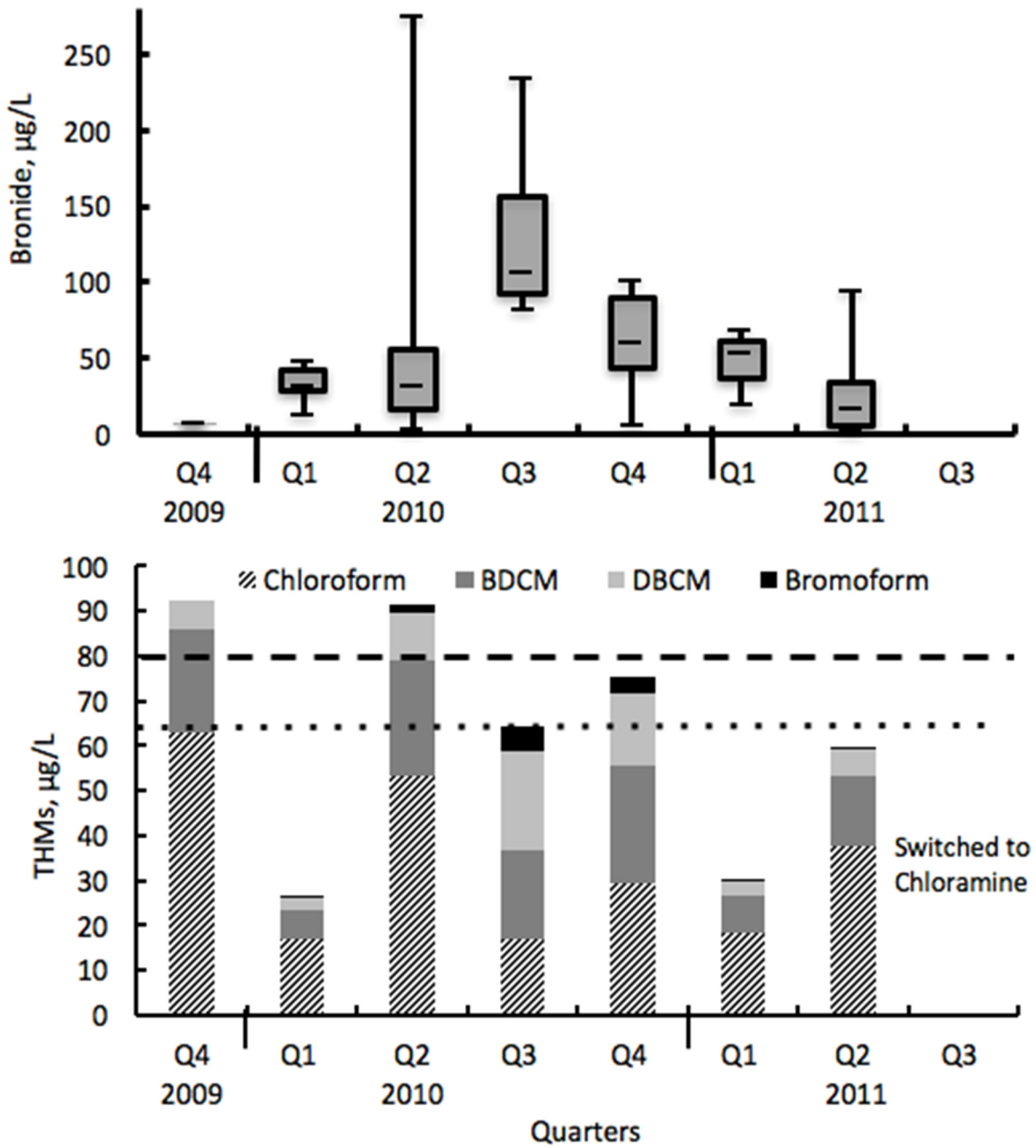


Figure S4. Quarterly bromide concentrations and individual THM species levels in finished water of Site E

SUPPLEMENTAL DATA

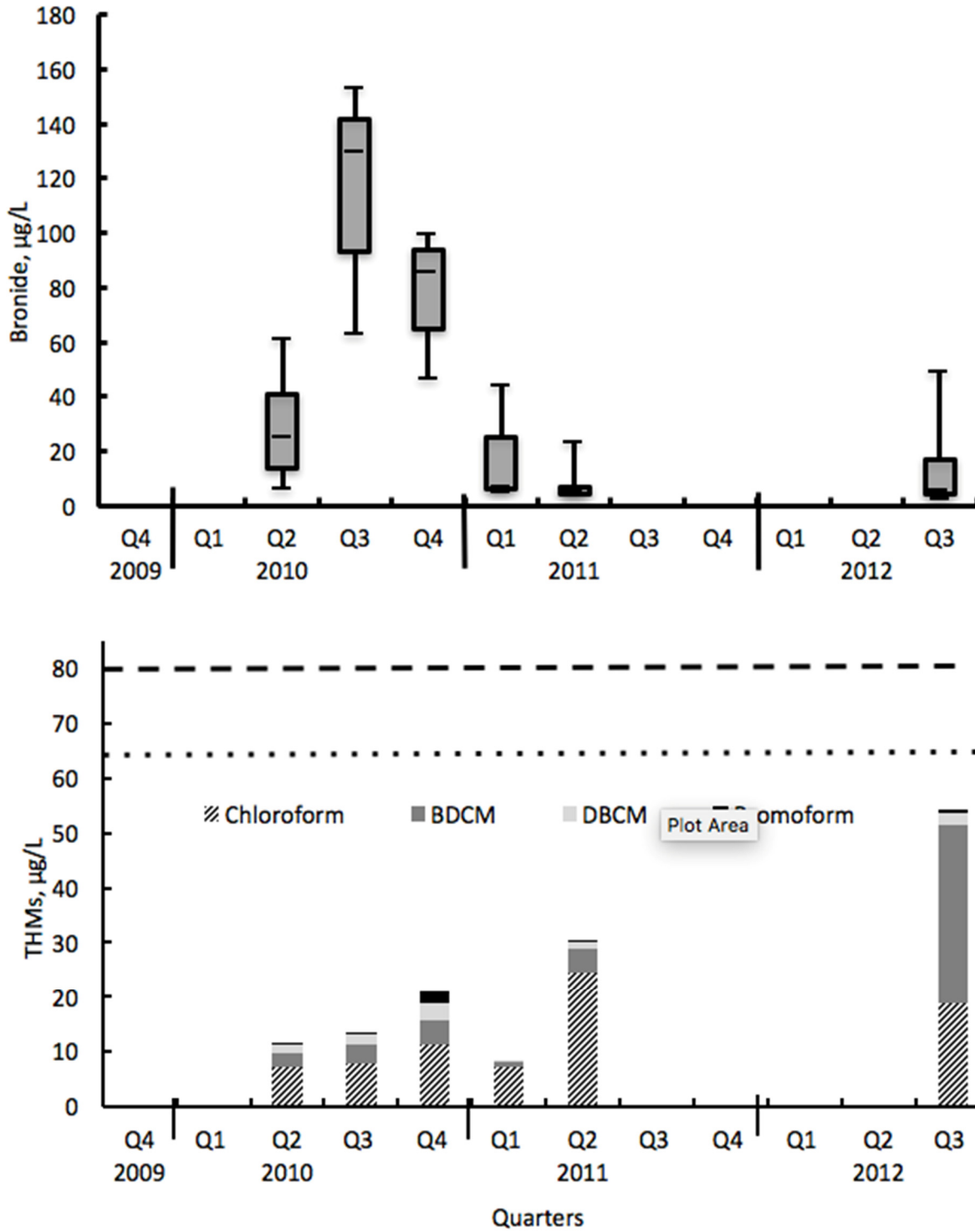


Figure S5. Quarterly bromide concentrations and individual THM species levels in finished water of Site F

SUPPLEMENTAL DATA

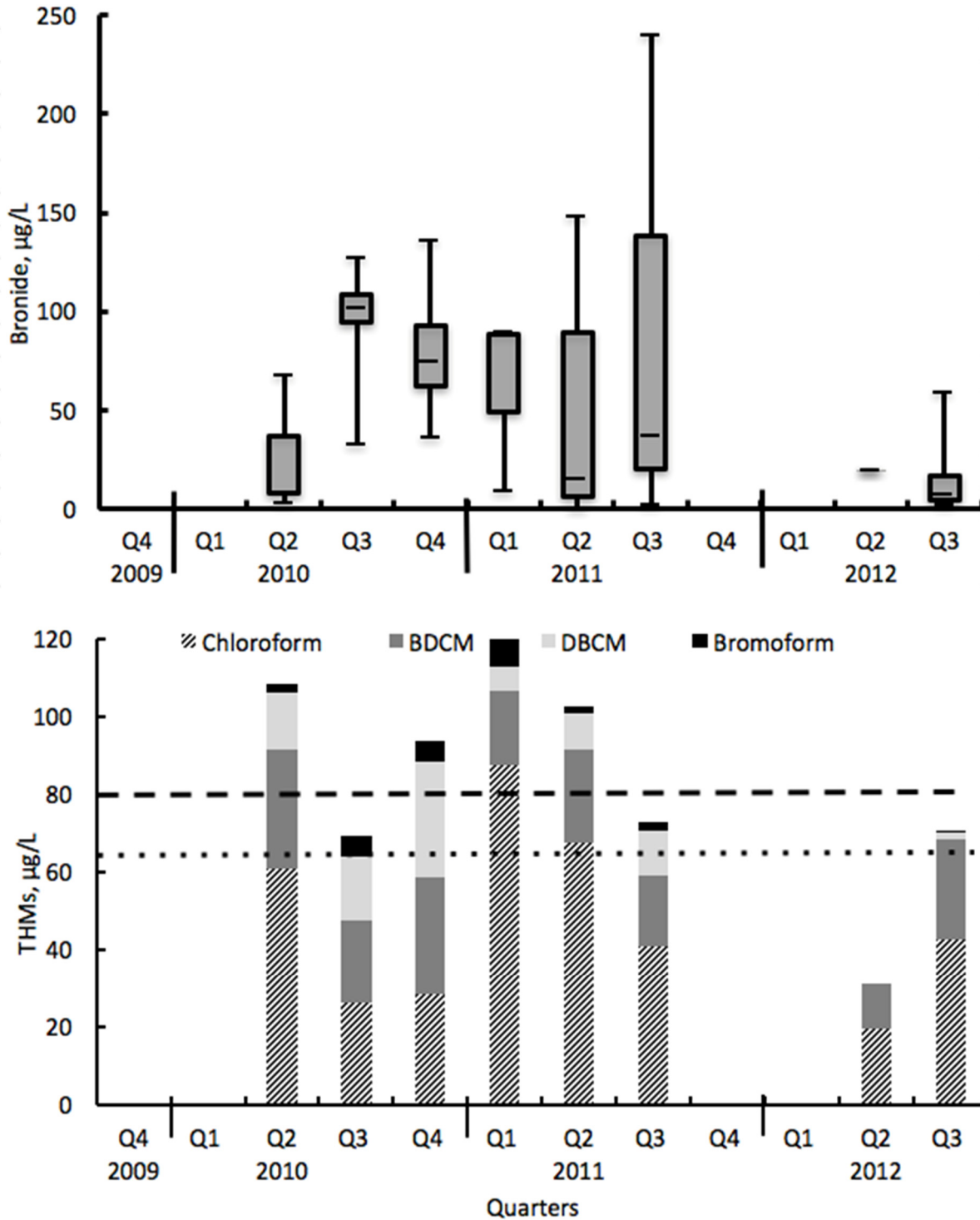


Figure S6. Quarterly HAAs concentrations in finished water at Site A

SUPPLEMENTAL DATA

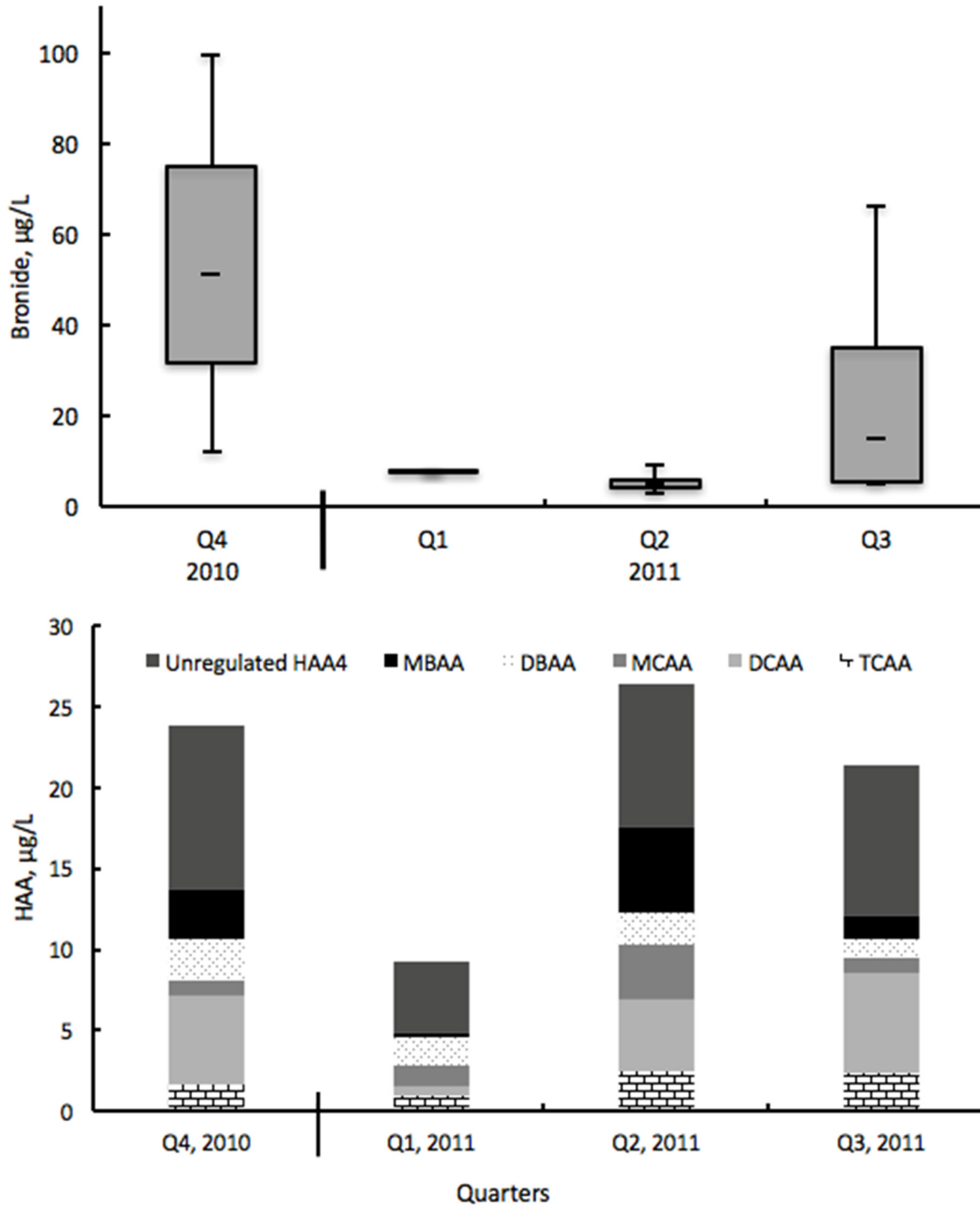


Figure S7. Quarterly HAAs concentrations in finished water at Site B



SUPPLEMENTAL DATA

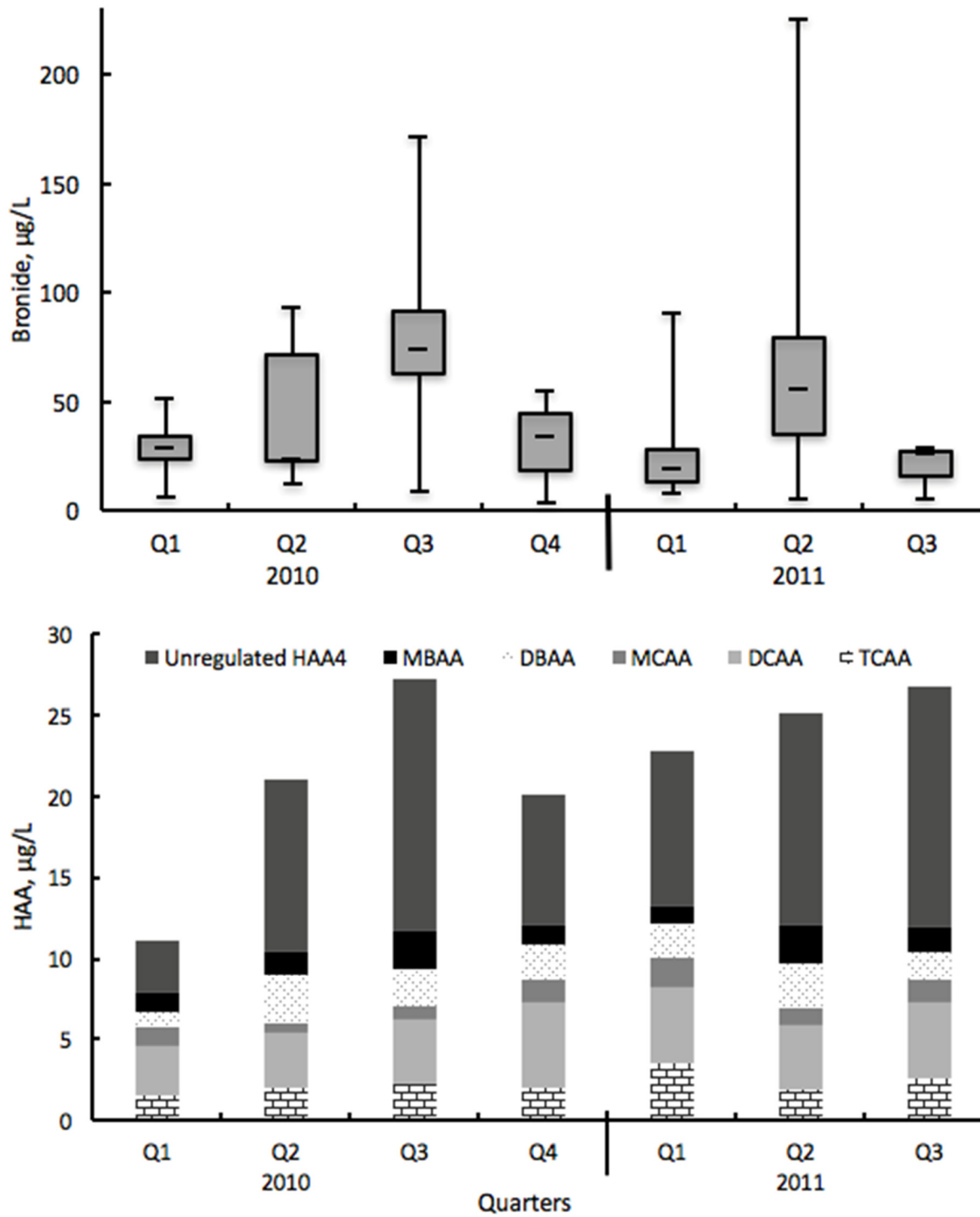


Figure S8. Quarterly HAAs concentrations in finished water at Site C

SUPPLEMENTAL DATA

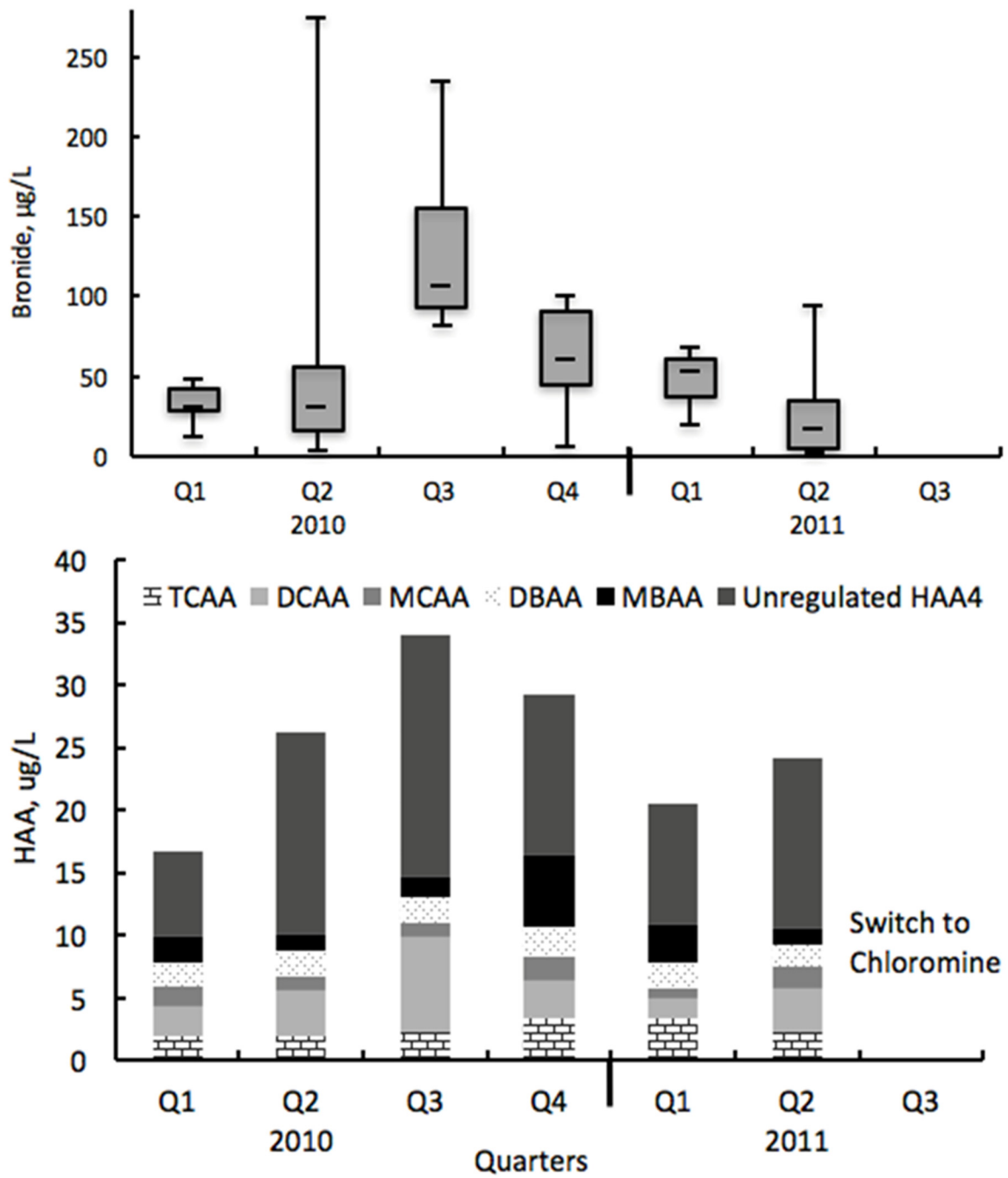


Figure S9. Quarterly HAAs concentrations in finished water at Site E

SUPPLEMENTAL DATA

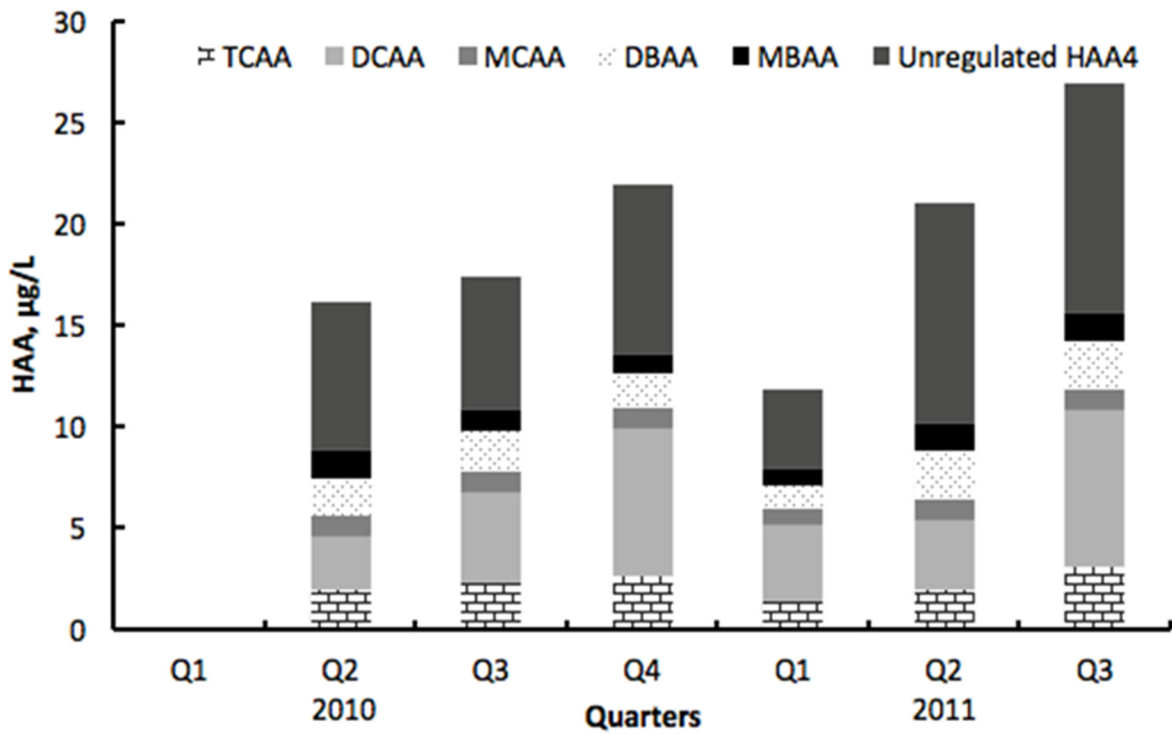
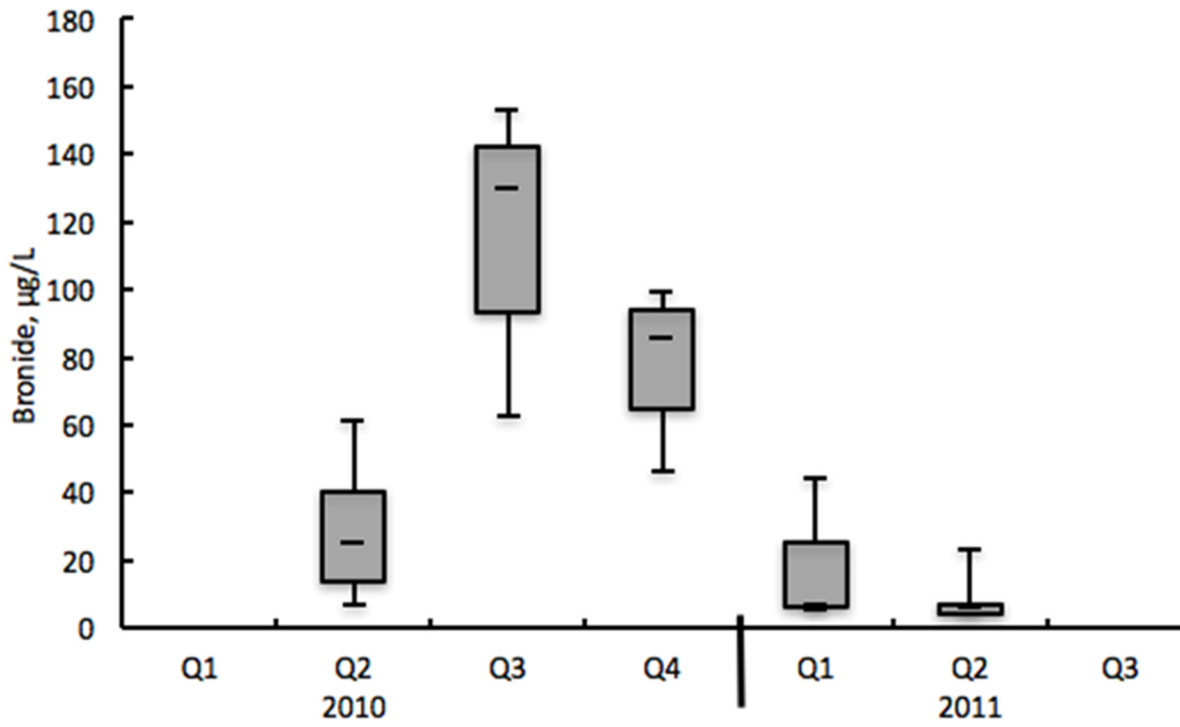


Figure S10. Quarterly HAAs concentrations in finished water at Site F

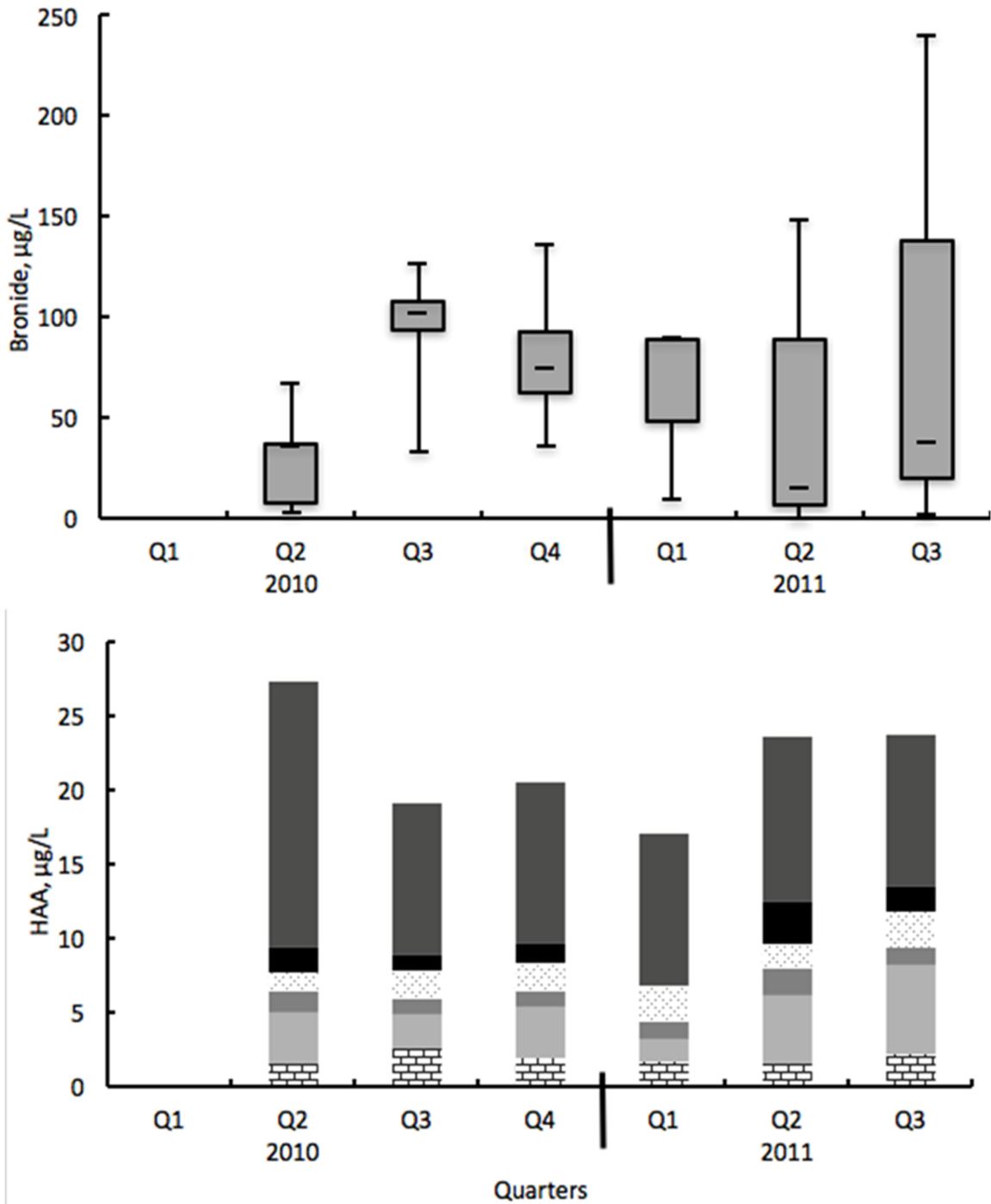


Figure S11. Regression analysis of bromination factors for HAA5 and bromide concentrations in source water

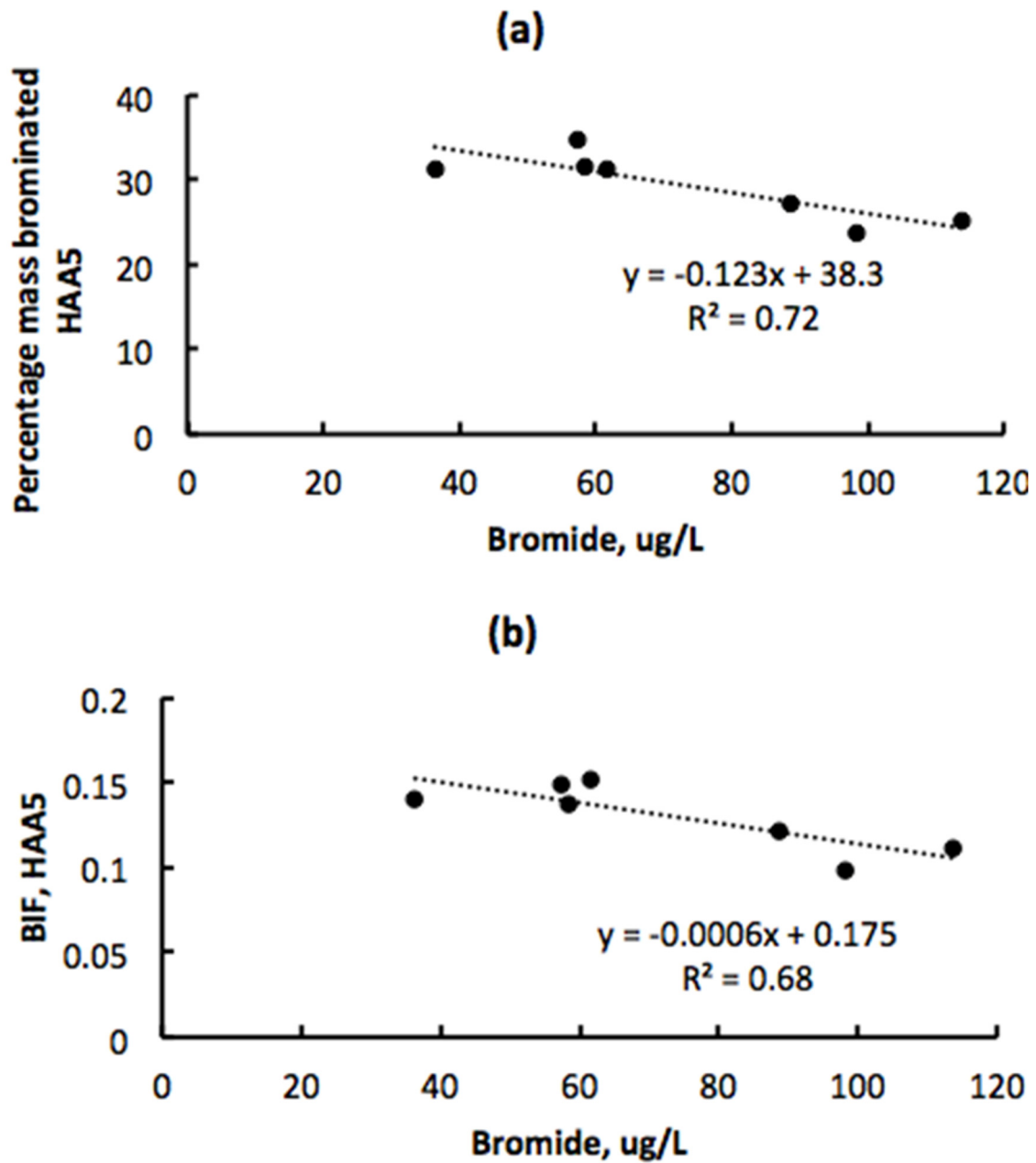


Figure S12. Oral Cancer Risk values for THM species on a quarterly basis at Site A

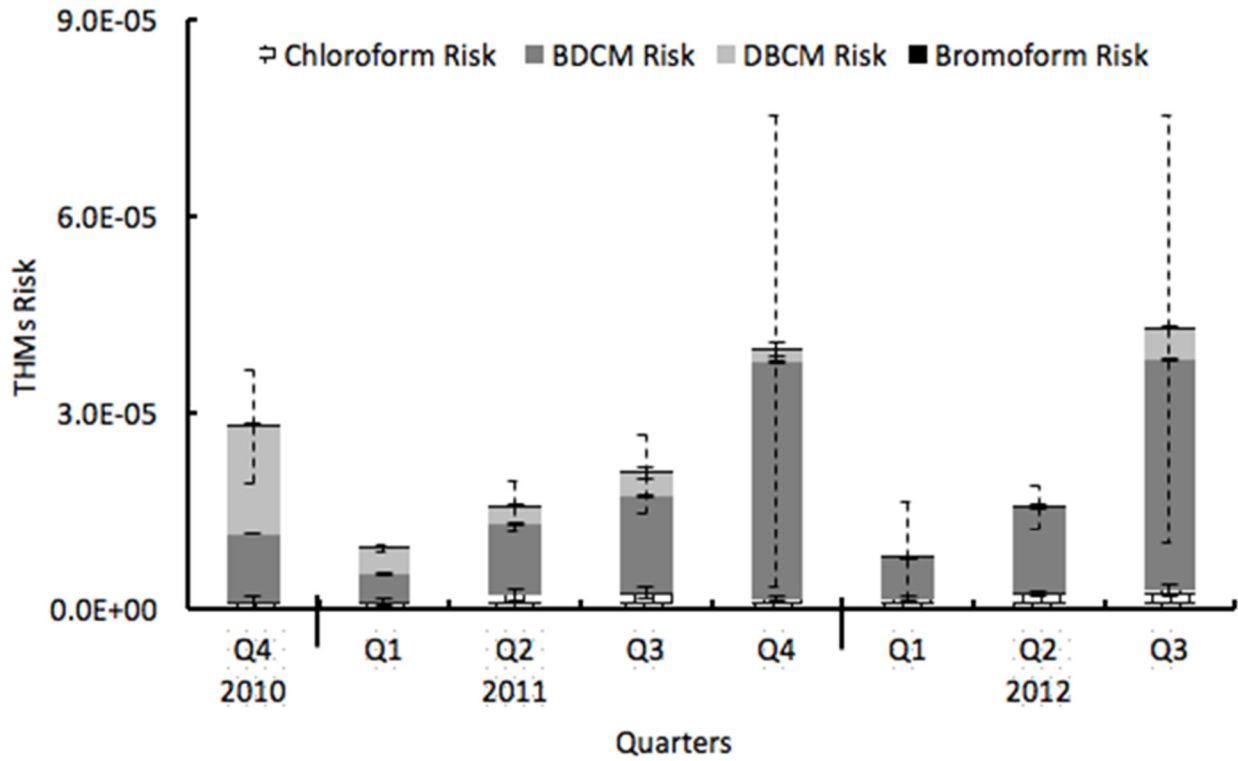


Figure S13. Oral Cancer Risk values for THM species on a quarterly basis at Site B

SUPPLEMENTAL DATA

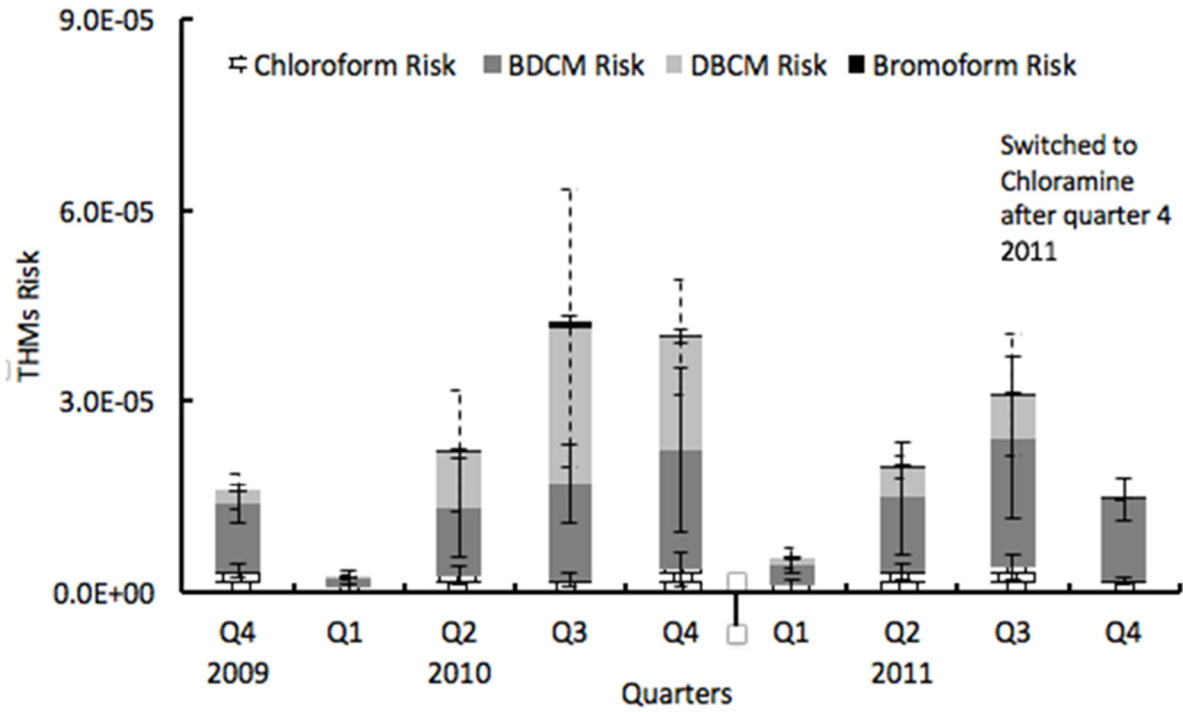


Figure S14. Oral Cancer Risk values for THM species on a quarterly basis at Site C

SUPPLEMENTAL DATA

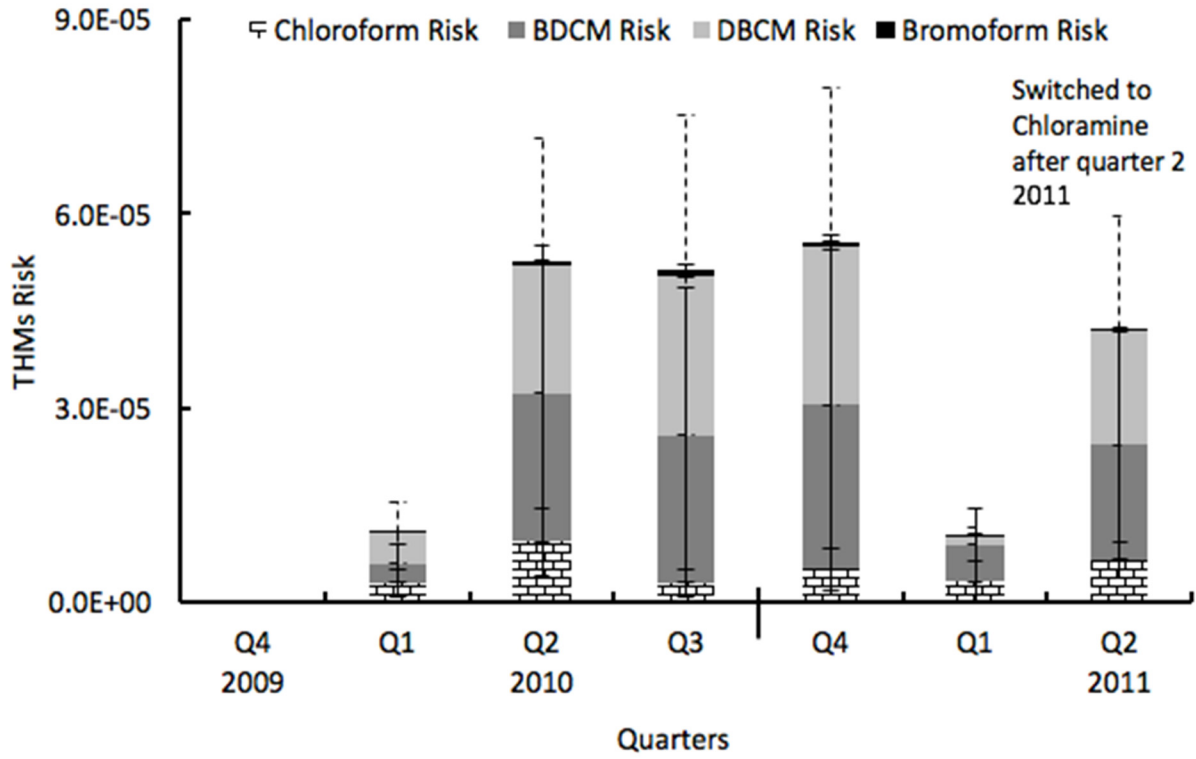
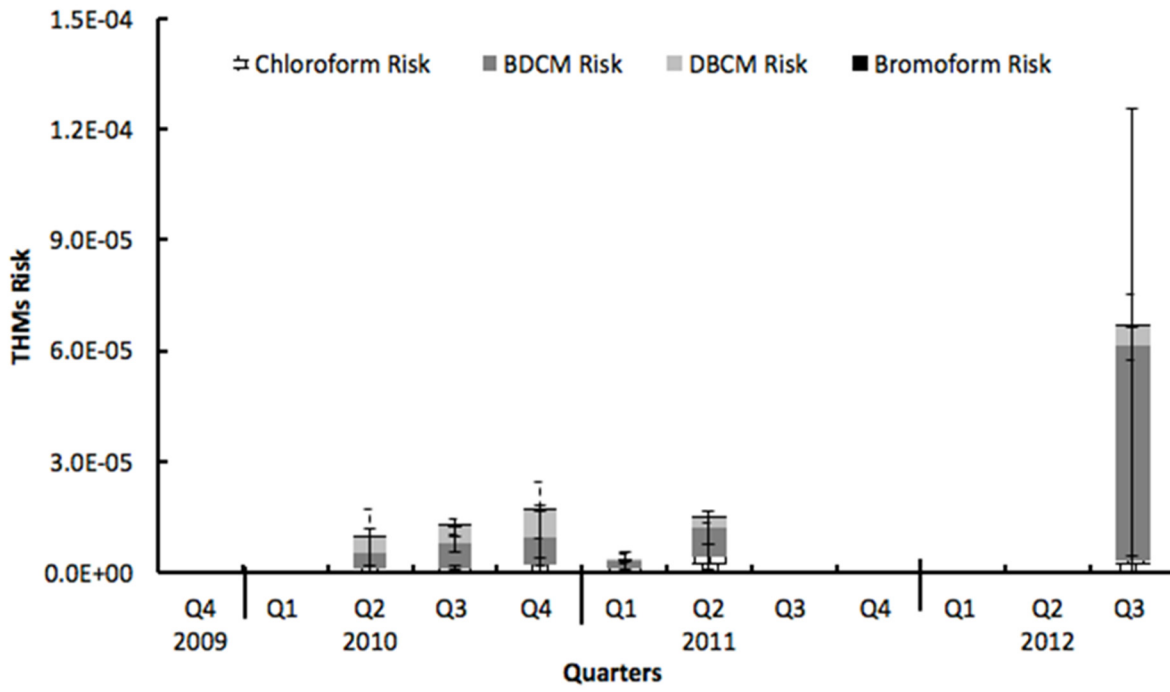


Figure S15. Oral Cancer Risk values for THM species on a quarterly basis at Site E



SUPPLEMENTAL DATA



**SUPPLEMENTAL DATA**

Figure S16. Oral Cancer Risk values for THM species on a quarterly basis at Site F

