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Update on Results of Chemical and Biological Monitoring of the Dike Construction Phase of the New Bedford Harbor Pilot Project

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Table 1. Concentration of PCB's (ug/l) in composite water samples collected on ebb and flood tides during the New Bedford Harbor Pilot Project. Samples were not collected at Station NBH-7 during the Pre-operational Phase.

	STATION							
	NBH-1		NBH-7		NBH-2		NBH-4	
DATE	EBB	FLD	EBB	FLD	EBB	FLD	EBB	FLD
(PRE-OPERATIONAL PHASE)								
870709	0.44	1.1			0.72	0.60	0.11	0.09
870713	1.1	0.76			0.73	0.59	0.13	0.12
870924	1.8	1.5			0.55	0.38	0.11	0.11
870928	1.2	0.72			0.52	0.39	0.10	0.11
880331	1.0	1.1			0.54	0.43	0.22	0.13
880613	-	0.75	0.29	1.10	0.35	0.29	0.05	0.05
880614	2.5	1.3	0.93	1.20	0.57	0.68	-	0.08
880615	3.8	2.0	1.7	1.4	0.84	0.74	0.11	0.09
(DIKE CONSTRUCTION PHASE)								
880623	1.0	-	1.0	-	1.1	-	0.11	-
880624	2.6	0.55	1.0	0.42	0.89	0.67	0.05	0.08
880627	0.67	1.0	0.67	0.88	0.76	0.18	0.09	0.09
880629	1.3	1.0	1.1	0.75	1.5	0.51	0.11	0.07
880711	3.2	1.5	0.88	0.86	1.1	0.54	-	-
880712	1.8	-	1.6	-	1.3	-	-	-
880715	1.4	2.4	0.88	1.1	1.2	0.41	-	-
880727	-	0.78	-	0.42	0.58	0.24	0.20	0.07
880729	0.55	0.74	-	0.58	0.60	0.26	0.10	0.07
880801	1.4	0.76	0.40	1.03	0.42	0.30	0.11	0.09
880802	1.2	1.3	0.61	0.82	0.48	0.24	0.07	0.08

Table 2. Summary of acute and chronic biological responses after exposure to water collected from NBH during the first 7 days of the dike construction phase of the Pilot Project. In addition, mussel tissue residue PCB concentrations are listed.

	Acute Response (% Survival)		
Test organism	NBH-2 (Ebb)	NBH-4 (Ebb)	NBH-5
Fish	96	96	96
Mysid	90	90	90
Champia	100	100	0 *
Mussel **	100	100	100

	Chronic Response		
Test Organism	NBH-2 (Ebb)	NBH-4 (Ebb)	NBH-5
Fish (Dry wt.)	2.65	2.69	2.73
Mysids ***			
Mussels (SFG) **	4.3	10.	5.1
Champia ***			

Mussel PCB Tissue Residues (ug/g)	Pre-operational	Dike Construction
7-day exposure	45.7	46.7

* All control plants died.

** Continuous exposure.

*** Because of condition of organisms, they did not meet the minimum 7-day test criteria.

Table 3. Summary of acute and chronic biological responses after exposure to water collected from NBH during the second 7-day monitoring effort (7/27-8/2) of the dike construction phase of the Pilot Project. In addition, mussel tissue residue PCB concentrations are listed.

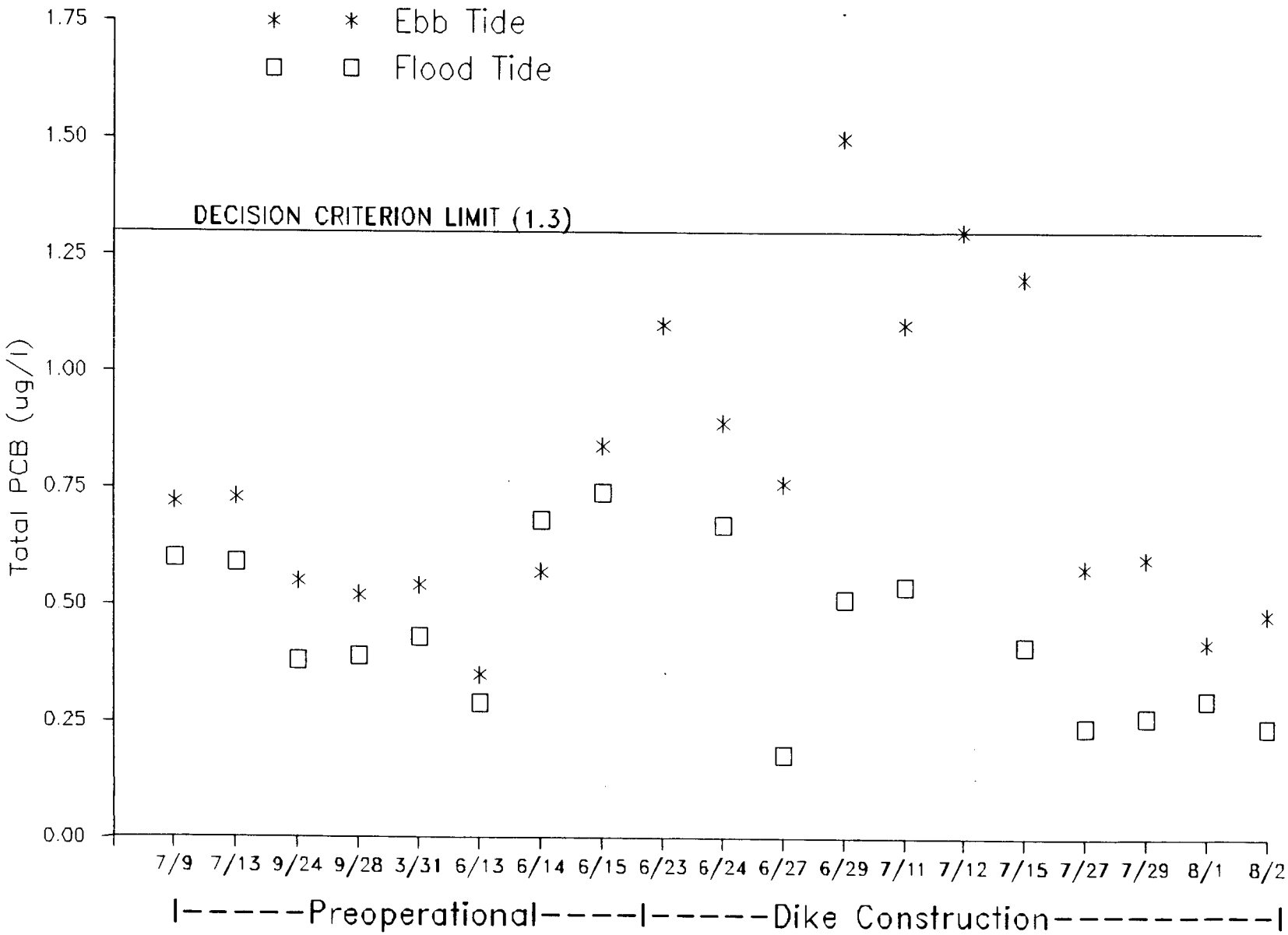
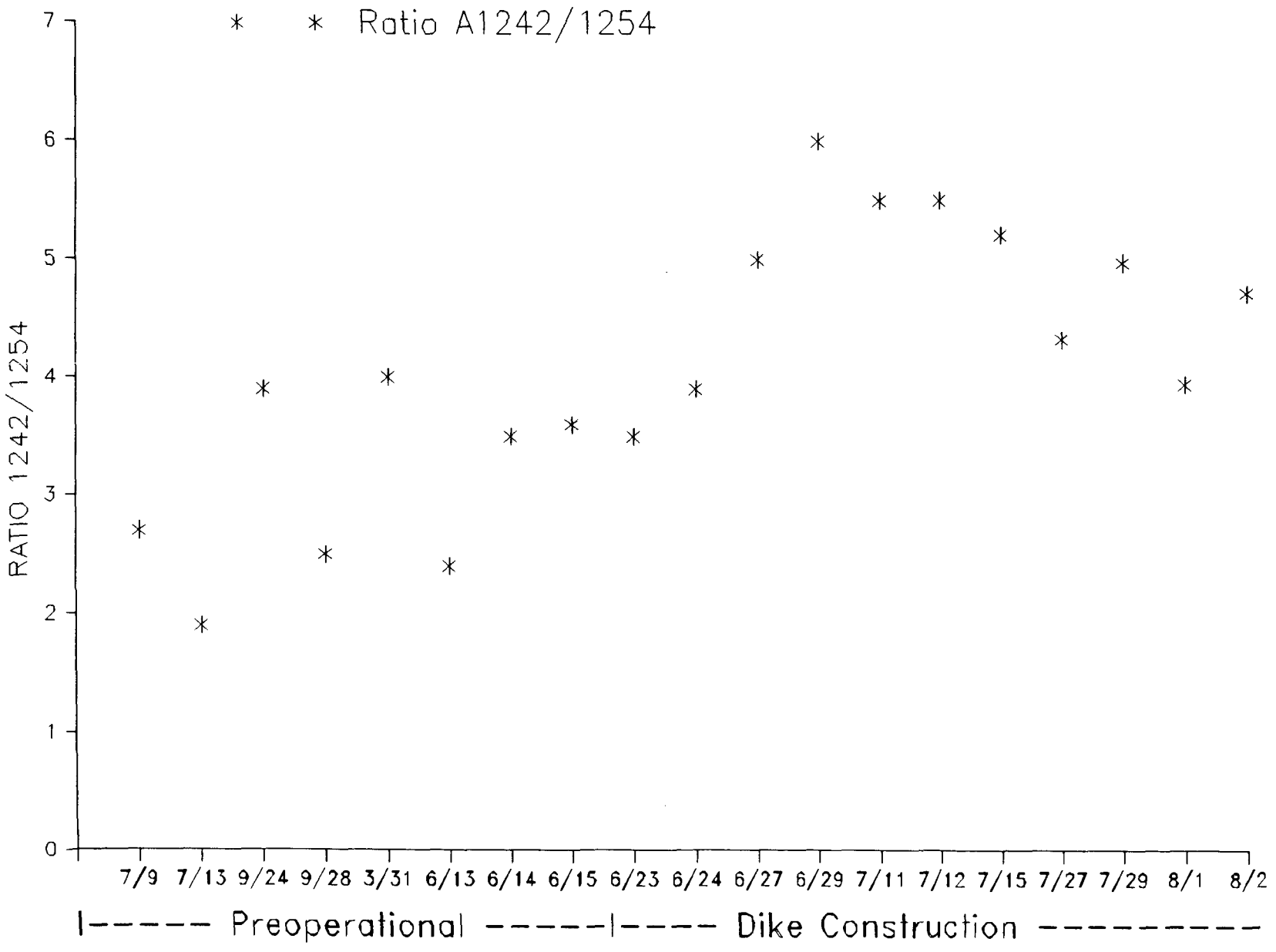
	Acute Response (% Survival)		
Test organism	NBH-2 (Ebb)	NBH-4 (Ebb)	NBH-5
Fish	97	100	100
Mysid	98	98	85
Mussel *	86	96	97

	Chronic Response		
Test Organism	NBH-2 (Ebb)	NBH-4 (Ebb)	NBH-5
Fish (Dry wt.)	1.28	1.21	1.20
Mysids (Dry wt.)	0.307	0.278	0.320
Mussel *			
SFG (J/h)	-10	1.4	0.2
Shell Growth (mm)	1.1	1.3	1.3

Mussel PCB Tissue Residues (ug/g)	Station NBH-2	
	Pre-operational	Dike Construction
7-day exposure	45.7	46.3
28-day exposure	94.7	71.1

* Continuous 28-day exposure.

PCB concentrations in water samples collected at NBH-2



Ratio of Aroclor 1242/1254 in Ebb water samples at NBH-2