

**Analysis of Metals in Water, Stream Sediments, and Floodplain Soils  
Collected May 23-25, 2006 from the Bayou Creek System**

**Andrew J. Wigginton and David J. Price**

**DRAFT REPORT**

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**Nicole Burpo and Jon Maybriar**

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## INTRODUCTION

Water, stream sediments, and floodplain soils were collected from Big and Little Bayou Creeks on May 23-25, 2006, and analyzed for metal content. Samples were taken from 11 stations on Big Bayou Creek (stations BB1A through BB9); five stations from Little Bayou Creek (stations LB1 through LB4); and effluents 001, 006, 008 and 010+011. The reference station at the west fork of Massac Creek (MC) also was sampled for water, stream sediments, and floodplain soils. A total of 30 metals (*i.e.* silver (Ag), aluminum (Al), arsenic (As), boron (B), barium (Ba), beryllium (Be), calcium (Ca), cadmium (Cd), cobalt (Co), chromium (Cr), Copper (Cu), iron (Fe), potassium (K), lithium (Li), magnesium (Mg), manganese (Mn), molybdenum (Mo), sodium (Na), nickel (Ni), phosphorus (P), lead (Pb), antimony (Sb), selenium (Se), silicon (Si), tin (Sn), strontium (Sr), titanium (Ti), thallium (Tl), vanadium (V), and zinc (Zn)) were determined for each sediment and floodplain sample. The same suite of metals was analyzed in each water sample, with the exception of B and Si.

## METHODS

### Water Collection

Samples for water quality measurements were collected in 1-L "Cubitainer" vessels and were placed on ice until delivery to the laboratory. Water samples for metal assays were collected in acid-cleaned 250-mL polyethylene bottles. Samples were preserved with concentrated HNO<sub>3</sub> upon collection and analyzed for total recoverable (TR) metals.

## **Sediments and Floodplain Soils Collection**

Stream sediment samples were restricted to the upper 5-10 cm of sediment soil, including depositional areas when found. Floodplain soils were collected within 10 m of the shoreline (5-10 cm deep) in areas where flood debris was present. Any surface vegetation was removed prior to sampling floodplain soils. All sediment and floodplain samples were collected in acetone-rinsed 0.47 L glass jars with Teflon-lined lids. The stainless steel spoons and scoops used for collections were acetone-rinsed between sampling stations.

## **Water Quality**

On-site water quality measurements, which included temperature, pH, dissolved oxygen, and conductivity, were taken with a YSI 650 MDS meter and a YSI 600 QS multi-parameter sonde. Alkalinity and hardness were measured according to procedures described by American Public Health Association (APHA 1995), for bromocresol green-methyl red titrimetric and EDTA titrimetric procedures, respectively.

## **Metal Digestions and Determinations**

Acidified water samples were analyzed directly for total recoverable (TR) metals. Sediment and floodplain soil samples were digested according to procedures described in EPA Method 3050B and ASTM Method D 3974-81 (ASTM 1989; U.S. EPA 1997) and previously described by Birge and Price (2001). Metal analysis was performed using a Varian Vista-MPX simultaneous Inductively Coupled Plasma-Optical Emission Spectrophotometer (ICP-OES) and a Varian Model Spectra AA-20 graphite furnace Atomic Absorption Spectrophotometer (AAS) as described by U.S. EPA (1997). All gases

used were ultra pure carrier grade. Calibration curves were based on at least four standards. Instrument blanks (0.5% HNO<sub>3</sub>) and check standards were processed with all samples. Sample concentrations were then corrected for deviations from the standards and sample weights were factored into the calculations of final values.

### **Quality Assurance**

Permanent bench records were kept of all assays and annotated as required under Good Laboratory Practices (*Federal Register* 1989). All printouts and graphic recordings were filed and are open for inspection. These bench records will be archived within two years after the close of the project but will remain retrievable upon request.

## **RESULTS**

### **General Water Quality**

The results for general water quality parameters are given in Table 1. Overall, temperature, pH, and dissolved oxygen were within expected ranges. Temperatures varied between 18.85 and 25.16° C in Big Bayou Creek while temperatures in Little Bayou Creek varied between 18.75 and 23.02° C. The temperature range of the effluents was generally slightly warmer than nearby stream stations (24.11 – 26.14° C). The pH for Big Bayou Creek ranged from 6.81 to 7.84, and dissolved oxygen ranged from 6.20 to 10.42 mg/L. For Little Bayou Creek, pH ranged from 6.23 to 7.59, and dissolved oxygen levels ranged from 5.25 to 7.97 mg/L. High conductivity and hardness were observed for effluent 001 with values of 1127 µS/cm and 276 mg CaCO<sub>3</sub>/L, respectively. Consistent with previous studies (Birge and Price, 2005a,b), effluent 001 accounted for elevated

conductivity and hardness observed in downstream stations BB6 through BB8. Similar to results obtained in the past, alkalinity was at low to moderate levels and varied between 40 and 140 mg CaCO<sub>3</sub>/L in both Big Bayou and Little Bayou Creeks.

## **Metals in Stream Water**

### **A. Big Bayou Creek**

Average metal concentrations in water samples from Big Bayou Creek and effluents are presented in Tables 2 and 3. Values for individual samples are given in Table A1 and A2. Silver Ag was only detected in water samples from station BB6 (Figure 1, 2) and effluent 001. The highest Ag level was found in effluent 001 (0.63 µg/L). Aluminum in Big Bayou Creek was only detected in stations BB5, BB7, BB8, and BB9. These values were greater than Al levels measured in the spring of 2004 and 2005, but less than those from the fall of 2004 (Birge and Price 2005b, Price 2006). Water As, Be, Sb, Se, Sn, and Tl were not detected at any of the stations in Big Bayou Creek nor in any of the effluents. As observed in the past, Ca, K, Mg, Na, and Ni were elevated at stations BB6 through BB8. This may be caused by elevated levels of these elements in effluent 001. Potassium remained elevated through station BB9. Cadmium was only detected in effluent 008 (1.25 µg/L). Chromium was somewhat elevated at stations BB5-BB9, with values ranging from 0.75 to 1.42 µg/L (Figure 3, 4). In Big Bayou Creek, Cu was highest at station BB6, with a value of 4.04 µg/L (Figure 5, 6). An elevated value for Cu was also detected in effluent 001 (9.64 µg/L).

Concentrations of water borne Fe in Big Bayou Creek varied between a minimum of 109.51 µg/L at BB2 and a maximum of 1847.1 µg/L at BB5 (Figure 7, 8). Generally,

values were similar to those measured in March 2004, October 2004, and March 2005 (Birge and Price 2005b, Price 2006). Effluent 008 had a higher Fe level (3903.9 µg/L) than in the past two years (Birge and Price 2005b, Price 2006). Lead was detected in Massac Creek and stations BB5 – BB9 in Big Bayou Creek, with values ranging from 1.10 up to 2.24 µg/L (Figure 9, 10). Additionally, Pb was detected in effluents 001, 006 and 008 with concentrations ranging from 1.09 to 13.23 µg/L. Concentrations of Mo were elevated in effluent 008 (38.44 µg/L). This likely accounts for the elevated levels of Mo in Big Bayou Creek starting at BB4 (22.74 µg/L) and continuing downstream to BB8 (Figure 11, 12). As previously noted, levels of Ni were elevated in BB6 - BB8, and this trend continued through station BB9 (Figure 13, 14). Effluent 008 had 17.55 µg Ni/L and was contributing Ni into Big Bayou Creek. Concentrations of P were elevated from BB4 to BB9 (140.83 to 264.69 µg/L) compared to upstream sites. Levels of P in effluent 008 were elevated as well (1635.0 µg/L). Water concentrations of Zn were highest for stations BB3 (23.65 µg/L), BB5 (12.28 µg/L), and effluent 008 (166.21 µg/L) in Big Bayou Creek (Figure 15, 16). This Zn concentration for effluent 008 is higher than in any of the previous 3 sampling periods (10.66 – 32.95 µg/L; Birge and Price 2005b, Price 2006). The major effluents had elevated concentrations of some elements that may indicate them as sources of metals to Big and Little Bayou Creeks. For example, Ag was detected in effluent 001 which empties into Big Bayou Creek above BB6, where Ag also was detected. Effluent 001 also had elevated levels of Co, Cu, Fe, K, Li, Mg, Na, Pb, Sr, and Zn. Additionally, effluent 008 may contribute Al, Co, Cr, Fe, K, Mn, Mo, Ni, P, Pb, Ti, and Zn into Big Bayou Creek.

## **B. Little Bayou Creek**

Average metal concentrations in water samples from Little Bayou Creek and the effluents are presented in Table 3. Values for individual samples are given in Table A2. Silver was not detected in water at any of the stations along Little Bayou Creek (Table 3). Aluminum and Ba were highest at station LB1 (1234.86  $\mu\text{g Al/L}$  and 156.92  $\mu\text{g Ba/L}$ ) for either stream. As in Big Bayou Creek, As, Be, Sb, Se, Sn, and Tl were not detected at any of the stations in Little Bayou Creek. Chromium levels were typically higher (1.33 – 3.05  $\mu\text{g/L}$ ) than for Big Bayou Creek with the highest concentrations detected at downstream stations LB3 and LB4 (Figure 17, 18). A Cu value similar to BB6 was detected in Little Bayou Creek at LB1 (4.20  $\mu\text{g/L}$ ). However, Cu values in LB2A through LB4 were fairly constant (Figure 19, 20). The Cu level in effluent 010+011 was lower than found in the previous spring collection (2.28  $\mu\text{g/L}$ ; Birge and Price 2005b). In Little Bayou Creek, Fe levels at LB1 (2840.9  $\mu\text{g/L}$ ; Figure 21, 22) were elevated compared samples from previous years, while most other stations were similar. A similar trend was observed for water Pb, which also was highest at station LB1 (5.43  $\mu\text{g/L}$ ; Figure 23, 24). Station LB1 had the highest average concentration of Ni (5.44  $\mu\text{g/L}$ ), however, levels in downstream stations (1.08 - 1.30  $\mu\text{g/L}$ ) fell to concentrations comparable to reference sites (Figure 25, 26). The highest water Zn in Little Bayou Creek was found at station LB1 (26.48  $\mu\text{g/L}$ ; Figure 27, 28). The combined effluent 010+011 may contribute P and small amounts of Cu, Li, and Zn into Little Bayou Creek.

## **Metals in Sediments and Floodplain soils**

### **A. Big Bayou Creek**

Results for metal concentrations in individual assays of sediment and floodplain soils from Big Bayou Creek are given in Tables A3 and A5, whereas mean metal concentrations are given in Tables 4 and 6. Water, sediment, and floodplain soil metal concentrations in Big Bayou Creek are compared for select metals in Figures 1-16. Silver was only detected at BB1 (0.19 µg/g) in stream sediment, but not in any floodplain soil samples (Figure 1, 2). Aluminum values ranged from 1236.8 to 3951.4 µg/g in sediments and from 2271.8 to 4714.6 µg/g in floodplain soils. Stations BB1, and BB7-BB9 had sediment Al levels somewhat higher than most reference sites. However, all of the Big Bayou Creek floodplain soil samples had Al levels that were similar to those at the reference sites. Boron (B) concentrations ranged from 13.58 to 17.72 µg/g in sediments and from 14.32 to 18.67 µg/g in floodplain soils. In both cases, there was little difference between reference and impacted sites. Sediment concentrations for Be, Ti, and vanadium (V) in impacted stations were similar to those from reference stations. For floodplain samples, As, Ba, Be, Cd, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Sb, Ti, Tl, and V levels were generally similar between reference and impacted sites. Station BB1 often showed elevated levels of metals relative to stations MC, BB1A, and BB2. Among sediment samples from Big Bayou Creek, BB1 had the highest levels of any station for Ag (0.19 µg/g), As (1.15 µg/g), Be (0.95 µg/g), Ca (2248.7 µg/g), Cd (1.00 µg/g), Co (17.17 µg/g), Cr (22.76 µg/g), Cu (6.79 µg/g), Fe (12,144.4 µg/g), Mn (2331.2 µg/g), Ni (10.94 µg/g), P



(175.07 µg/g), Pb (20.40 µg/g), Sb (0.55 µg/g), Se (1.44 µg/g), Tl (5.66 µg/g), and the second highest value for Zn (17.65 µg/g).

In addition to BB1, sediment Ca was somewhat elevated at stations BB2, and BB6 through BB9. Cobalt levels in sediments were somewhat elevated at BB9 (5.50 µg/g) as well as BB1. Sediment Cr was elevated at BB1-BB3 and BB6 (Figure 3). The highest concentration of floodplain Cr was observed at stations BB3 and BB6 (Figure 4). Stations BB1, and BB7-BB9 all showed somewhat elevated sediment levels of K and Mg. Lithium, Mn, and Sr levels in sediment were most elevated at BB1 and BB9. Lead levels in sediments ranged from 2.82 to 20.40 µg/g with the highest level observed at station BB1 (Figure 9). Floodplain soil Pb ranged from 2.97 to 10.14 µg/g and was highest at station BB6 (Figure 10). Floodplain soils from effluent 001 had a Pb concentration of 11.81 µg/g, which may account for increased Pb levels at station BB6. Sediment Na was slightly elevated at BB7 and BB9 compared to reference sites. Station BB9 possessed the highest sediment levels of several elements including Al (3951.4 µg/g), Ba (51.02 µg/g), K (48.50 µg/g), Mg (714.09 µg/g), Si (30.27 µg/g), Sr (9.68 µg/g), and Zn (17.91 µg/g). Sediment Zn ranged from 9.01 to 23.75 µg/g (Table A5; Figure 15). In the main effluents, Zn levels in sediment ranged from 17.35 to 33.95 µg/g (Table A6). For floodplain soil samples, station BB1 had the highest concentrations of B, Ca, P, Sr, and Zn. Floodplain soil Pb was lower than in sediments and ranged from 3.76 to 8.07 µg/g at BB6 (Figure 10). While As levels in floodplain soils were generally similar between reference sites and impacted sites, the range of values (0.85 to 2.36 µg/g) was greater than in sediments. The highest floodplain soil Zn level was observed at station BB1 (20.67 µg/g), although levels were also slightly

elevated at BB2A, BB2, and BB4-BB6 (Figure 16). Concentrations of Zn were generally lower than values observed in March 2004 or March 2005 (Birge and Price 2005b, Price 2006).

### **B. Little Bayou Creek**

Metal concentration results for individual assays of sediment and floodplain soils from Little Bayou Creek are given in Tables A4 and A6, whereas mean metal concentrations are given in Tables 5 and 7. Water, sediment, and floodplain soil metal concentrations in Little Bayou Creek are compared for select metals in Figures 17-28. Silver, Mo, and Sn were not detected in sediments from any of the stations along Little Bayou Creek. Several metals were only detected sporadically in sediment samples, and these included As (LB2, LB4), Se (LB1), and Ti (LB1, LB3). In floodplain soils, several metals were only detected occasionally as well, including Ag (LB4), Mo (LB1, LB2), Se (LB1), and Sn (LB2). Sediment concentrations of Ba, Be, Ca, Co, K, Li, Mg, Mn, Ni, Pb, Se, Ti, and Zn and floodplain soil concentrations of Ba, Ca, Cu, K, Li, Mg, Mn, Ni, P, Se, Ti, and Zn were highest in samples from station LB1.

Arsenic levels in sediments were similar to levels observed in Big Bayou Creek, with values of 0.43 and 0.79  $\mu\text{g/g}$  having been detected at LB2 and LB4, respectively. Floodplain soil levels of As (1.03 – 3.59  $\mu\text{g/g}$ ) ranged slightly higher than levels found in Big Bayou Creek and Massac Creek. In general, sediment As values from May 2006 were lower than sediment samples from March and October 2004 and March 2005 (Birge and Price 2005b, Price 2006). However, floodplain soils collected from May 2006 were slightly higher than samples taken during the previously mentioned collections

(Birge and Price 2005b, Price 2006). Sediment Be ranged from 0.17 to 0.44  $\mu\text{g/g}$ , with highest values observed in station LB1. Beryllium in floodplain soils ranged in concentration from 0.18 to 0.38  $\mu\text{g/g}$ . Sediment Cd ranged from 0.05 to 0.21  $\mu\text{g/g}$ , which was lower than levels observed in March 2005 (Price 2006), whereas floodplain soil Cd ranged from 0.43 to 0.95  $\mu\text{g/g}$ . Sediment and floodplain soil Cr was highest at station LB4 (26.95 and 33.39  $\mu\text{g/g}$ , respectively). Sediment Cu ranged from 1.18 to 4.44  $\mu\text{g/g}$ , while floodplain soil Cu ranged from 4.55 to 6.39  $\mu\text{g/g}$ . The sediment and floodplain soils values for Cr and Cu were lower in the current collection than in the previous three collections, with a few exceptions that tended to be similar between current and previous levels (Birge and Price 2005b, Price 2006). Sediment and floodplain soil Ni concentrations were slightly higher at LB1. In general, Ni values were similar to or less than previous collections (Birge and Price 2005b, Price 2006). Sediment Pb was highest in stations LB1 and LB3, while floodplain soil values were highest at LB1 and LB2A. However the values were lower than those found in March and October, 2004 and slightly lower or similar to those from March 2005 (Birge and Price 2005b, Price 2006). As observed in the past, station LB1 was impacted by Zn and had the highest sediment and floodplain soil Zn concentrations, with values of 48.19 and 48.09  $\mu\text{g/g}$ , respectively.

### **SUMMARY COMMENTS**

Based on water quality results, effluent 001 and, to a lesser extent, effluent 008 were introducing electrolytes into Big Bayou Creek. All other water quality parameters

did not appear problematic. Although some Ag was detected in stream waters, the values were well below the national recommended chronic criterion value of 3.2 µg/L (U.S. EPA 2004). Although found in the past, both Be and Cd were not detected at any of the stations in the Bayou Creek system, however Cd was detected in effluent 008. Concentrations of Pb in stream water were below the chronic criterion value of 2.5 µg/L in most cases (U.S. EPA 2004). However, the Pb concentration at LB1 averaged above this value and the averaged level at BB9 was quite close to this level. In both cases, one replicate was above the criterion value and one was below it (Table A1, A2). Lead contamination seems to be an ongoing problem in the Bayou Creek system. It has been present at levels near or above the chronic criterion for several years (Birge and Price 2005b, Birge and Price 2006, Price 2006). Lead will continue to be monitored closely in the future. Both Ni and Zn concentrations in stream water were below the U.S. EPA chronic criterion values of 52 and 120 µg/L (U.S. EPA 2004). The results of this survey indicated that most of the metal concentrations detected in sediments and floodplain soils in effluent receiving stream sectors were similar to those in the reference stations. However, some floodplain soils may still represent a reservoir for metal contamination that can be reintroduced into the Bayou Creek system. In general, most of the water metal concentrations were below the levels observed in October 2004. They tended to be similar to or slightly higher than corresponding values from March 2004 and March 2005. Sodium and K values may be generally higher in the current study period. However, it is important to note that the metal values in the current study were sampled during high-flow water conditions. Metal levels tend to increase during low-flow

conditions found in the summer to early-fall (Birge and Price 2005a,b). As indicated in earlier reports, it is important to assess metals during low-flow conditions when stream discharge is lower and effluent impacts are more evident. Of values measured on Little Bayou Creek, station LB1 yielded 13 of the highest metal values for water samples and for sediment samples, and 11 of the highest for floodplain soils. While this station is relatively stagnant, these metal concentrations indicates that some local, or upstream contamination may have occurred. Likewise, BB1 had 16 of the highest sediment metal scores of stations along Big Bayou Creek, indicating localized contamination as the upstream BB1A site typically had lower levels.

Table 1. Water quality results for stream water samples from the Bayou Creek system collected May 23-25, 2006.

Station	Temp. (°C)	pH	D.O. (mg/L)	Conductivity (µS/cm)	Alkalinity (mg CaCO <sub>3</sub> /L)	Hardness (mg CaCO <sub>3</sub> /L)
MC	23.47	6.92	6.72	151	40	64
BB1A	19.97	6.81	7.05	215	80	60
BB1	20.47	6.95	7.45	133	80	56
BB2A	22.14	6.82	7.58	215	80	84
BB2	18.85	7.11	8.05	280	60	76
BB3	24.31	7.84	10.42	262	80	84
008	26.14	7.10	5.72	424	60	88
BB4	24.79	7.11	7.59	328	60	96
006	24.24	7.14	7.36	262	60	80
BB5	24.32	7.25	7.94	294	60	72
001	25.54	8.46	8.12	1127	60	276
BB6	24.37	7.31	6.92	605	60	144
BB7	21.61	7.02	6.21	345	60	112
BB8	25.16	7.03	6.75	325	60	92
BB9	22.38	6.92	6.20	214	40	68
LB1	18.81	6.51	5.25	194	100	108
LB2A	18.75	7.59	7.30	280	140	104
010+011	24.11	7.32	7.69	384	40	92
LB2	20.48	7.34	6.97	431	100	100
LB3	21.06	6.23	6.38	392	100	88
LB4	23.02	6.94	7.97	336	80	96

Table 2. Metal concentrations in water samples from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Ag	Al	As	Ba	Be	Ca	Cd
MC	05/25/06	<0.25	<500.00	<10.00	62.86	<0.50	14127.2	<0.50
BB1A	05/23/06	<0.25	<500.00	<10.00	41.87	<0.50	15960.6	<0.50
BB1	05/23/06	<0.25	<500.00	<10.00	40.52	<0.50	17877.1	<0.50
BB2	05/23/06	<0.25	<500.00	<10.00	39.29	<0.50	14445.0	<0.50
BB2A	05/23/06	<0.25	<500.00	<10.00	32.18	<0.50	22182.8	<0.50
BB3	05/23/06	<0.25	<500.00	<10.00	34.56	<0.50	21665.7	<0.50
<sup>14</sup> BB4	05/23/06	<0.25	<500.00	<10.00	27.61	<0.50	20747.7	<0.50
BB5	05/23/06	<0.25	649.56	<10.00	24.68	<0.50	16831.6	<0.50
BB6	05/23/06	0.30	<500.00	<10.00	24.45	<0.50	30367.9	<0.50
BB7	05/25/06	<0.25	507.61	<10.00	38.40	<0.50	24056.5	<0.50
BB8	05/25/06	<0.25	505.13	<10.00	39.95	<0.50	22651.3	<0.50
BB9	05/25/06	<0.25	613.06	<10.00	41.37	<0.50	16288.8	<0.50

Table 2, continued. Metal concentrations in water samples from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Co	Cr	Cu	Fe	K	Li	Mg
MC	05/25/06	<0.50	<0.50	1.69	439.45	5756.2	0.55	3212.7
BB1A	05/23/06	<0.50	<0.50	<1.00	196.47	4054.1	0.82	3727.4
BB1	05/23/06	<0.50	<0.50	<1.00	238.85	3887.4	0.75	3722.0
BB2	05/23/06	<0.50	<0.50	<1.00	109.51	3152.1	0.91	3188.3
BB2A	05/23/06	<0.50	<0.50	<1.00	380.87	3785.5	3.52	4663.7
15 BB3	05/23/06	<0.50	<0.50	1.40	537.40	4003.0	4.10	4598.4
BB4	05/23/06	<0.50	<0.50	2.75	197.24	4706.8	3.57	5899.8
BB5	05/23/06	1.37	1.20	3.85	1847.1	3630.9	3.26	6434.4
BB6	05/23/06	1.01	1.42	4.04	474.85	6745.9	9.18	11461.6
BB7	05/25/06	0.72	0.91	3.59	687.61	7772.3	4.50	6488.1
BB8	05/25/06	0.66	0.75	3.19	646.72	7656.4	4.05	6114.1
BB9	05/25/06	1.00	1.07	2.90	939.50	6259.1	2.24	3716.7



Table 2, continued. Metal concentrations in water samples from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Mn	Mo	Na	Ni	P	Pb	Sb
MC	05/25/06	47.05	1.04	21293.1	1.38	133.76	1.13	<1.00
BB1A	05/23/06	130.01	1.13	26808.7	1.13	63.20	<1.00	<1.00
BB1	05/23/06	163.64	1.10	26561.9	1.17	63.69	<1.00	<1.00
BB2	05/23/06	27.60	1.10	27540.5	<1.00	58.60	<1.00	<1.00
BB2A	05/23/06	14.96	1.47	28975.8	<1.00	51.01	<1.00	<1.00
BB3	05/23/06	84.68	1.45	27161.2	1.03	72.51	<1.00	<1.00
BB4	05/23/06	26.47	22.74	33126.1	1.60	264.69	<1.00	<1.00
BB5	05/23/06	170.97	8.15	31520.2	1.86	182.26	1.84	<1.00
BB6	05/23/06	46.20	7.39	58373.9	2.60	140.83	1.10	<1.00
BB7	05/25/06	84.42	3.11	30688.2	2.72	210.40	1.84	<1.00
BB8	05/25/06	85.20	3.09	30275.1	2.76	196.57	1.48	<1.00
BB9	05/25/06	169.56	1.63	24767.8	2.91	257.58	2.24	<1.00

Table 2, continued. Metal concentrations in water samples from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Se	Sn	Sr	Ti	Tl	V	Zn
MC	05/25/06	<5.00	<5.00	75.96	5.05	<5.00	1.14	1.02
BB1A	05/23/06	<5.00	<5.00	76.38	0.80	<5.00	0.81	<1.00
BB1	05/23/06	<5.00	<5.00	83.44	0.82	<5.00	0.81	<1.00
BB2	05/23/06	<5.00	<5.00	85.98	1.25	<5.00	1.06	5.34
BB2A	05/23/06	<5.00	<5.00	181.42	5.78	<5.00	1.06	1.11
BB3	05/23/06	<5.00	<5.00	191.79	1.11	<5.00	1.69	23.65
17 BB4	05/23/06	<5.00	<5.00	184.45	1.16	<5.00	0.88	4.33
BB5	05/23/06	<5.00	<5.00	96.64	2.91	<5.00	2.40	12.28
BB6	05/23/06	<5.00	<5.00	195.24	1.49	<5.00	1.26	4.68
BB7	05/25/06	<5.00	<5.00	263.28	6.22	<5.00	2.32	9.18
BB8	05/25/06	<5.00	<5.00	220.34	6.17	<5.00	2.39	5.36
BB9	05/25/06	<5.00	<5.00	161.08	3.86	<5.00	3.27	6.43

Table 3. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Ag	Al	As	Ba	Be	Ca	Cd
LB1	05/24/06	<0.25	1234.86	<10.00	156.92	<0.50	29918.5	<0.50
LB2A	05/24/06	<0.25	<500.00	<10.00	111.97	<0.50	26853.3	<0.50
LB2	05/24/06	<0.25	<500.00	<10.00	58.66	<0.50	23097.7	<0.50
LB3	05/24/06	<0.25	<500.00	<10.00	42.02	<0.50	21013.5	<0.50
LB4	05/24/06	<0.25	<500.00	<10.00	44.27	<0.50	20394.2	<0.50
18 001	05/23/06	0.63	<500.00	<10.00	35.02	<0.50	55757.3	<0.50
006	05/23/06	<0.25	<500.00	<10.00	11.09	<0.50	13116.3	<0.50
008	05/23/06	<0.25	952.90	<10.00	64.67	<0.50	20921.1	1.25
010+011	05/24/06	<0.25	<500.00	<10.00	19.48	<0.50	18206.3	<0.50

Table 3, continued. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Co	Cr	Cu	Fe	K	Li	Mg
LB1	05/24/06	3.25	1.57	4.20	2840.9	3938.2	1.39	4197.2
LB2A	05/24/06	<0.50	1.52	1.18	406.67	2652.1	3.09	7795.6
LB2	05/24/06	<0.50	1.33	1.75	353.06	3250.4	3.67	8189.7
LB3	05/24/06	<0.50	3.05	2.01	371.91	3569.0	3.57	7625.1
LB4	05/24/06	<0.50	1.73	1.58	627.43	3262.1	2.69	5968.2
61 001	05/23/06	1.58	2.48	9.64	922.37	18495.6	23.25	22595.9
006	05/23/06	<0.50	0.74	<1.00	408.74	2567.3	2.42	6608.0
008	05/23/06	3.06	7.77	<1.00	3903.9	6576.4	5.82	8699.8
010+011	05/24/06	<0.50	1.72	2.28	245.33	3882.7	4.24	8056.1

Table 3, continued. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Mn	Mo	Na	Ni	P	Pb	Sb
LB1	05/24/06	815.10	1.27	18236.3	5.44	193.57	5.43	<1.00
LB2A	05/24/06	50.20	1.68	51072.5	1.08	92.91	1.03	<1.00
LB2	05/24/06	48.80	1.64	47120.7	1.26	184.64	1.18	<1.00
LB3	05/24/06	74.95	2.10	42262.1	1.30	193.76	<1.00	<1.00
LB4	05/24/06	85.82	1.89	35778.0	1.10	94.74	1.06	<1.00
20 001	05/23/06	55.24	5.52	230888.0	5.58	216.45	2.39	<1.00
006	05/23/06	27.17	2.03	29647.0	1.08	<20.00	1.09	<1.00
008	05/23/06	381.33	38.44	46245.2	17.55	1635.0	13.23	<1.00
010+011	05/24/06	19.31	2.54	42925.9	1.23	279.12	<1.00	<1.00

Table 3, continued. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Water Metal Conc. (µg/L)						
		Se	Sn	Sr	Ti	Tl	V	Zn
LB1	05/24/06	<5.00	<5.00	151.85	4.21	<5.00	6.98	26.48
LB2A	05/24/06	<5.00	<5.00	313.18	1.08	<5.00	1.23	3.74
LB2	05/24/06	<5.00	<5.00	294.12	1.16	<5.00	1.13	5.95
LB3	05/24/06	<5.00	<5.00	260.16	1.25	<5.00	1.24	7.28
LB4	05/24/06	<5.00	<5.00	278.59	1.38	<5.00	1.38	1.68
21 001	05/23/06	<5.00	<5.00	235.76	3.54	<5.00	2.02	13.06
006	05/23/06	<5.00	<5.00	56.72	2.19	<5.00	0.85	<1.00
008	05/23/06	<5.00	<5.00	153.46	6.35	<5.00	2.48	166.21
010+011	05/24/06	<5.00	<5.00	99.67	1.62	<5.00	0.92	4.32

Table 4. Mean metal values in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr
MC	N.D.	1631.5	N.D.	13.98	22.99	0.13	361.41	0.20	2.54	3.96
BB1A	N.D.	1450.9	0.48	16.54	13.50	0.16	364.43	0.26	1.77	4.76
BB1	0.19	2655.3	1.15	14.56	20.11	0.95	2248.7	1.00	17.17	22.76
BB2A	N.D.	1388.1	0.50	17.72	9.26	0.15	416.38	0.29	1.46	6.25
BB2	N.D.	1748.0	0.45	15.82	24.11	0.41	763.48	0.30	4.49	6.50
BB3	N.D.	1619.2	0.55	16.06	8.53	0.35	403.95	0.42	2.65	8.97
BB4	N.D.	1236.8	0.55	16.10	10.41	0.14	380.58	0.27	1.36	4.98
BB5	N.D.	1307.8	0.46	13.58	11.79	0.19	388.95	0.19	1.73	4.26
BB6	N.D.	1579.5	N.D.	16.43	13.77	0.21	458.25	0.28	2.31	7.49
BB7	N.D.	2802.7	0.45	16.10	25.06	0.18	854.71	0.12	1.93	3.53
BB8	N.D.	2281.8	N.D.	14.08	24.85	0.14	693.56	0.20	2.40	4.93
BB9	N.D.	3951.4	N.D.	15.85	51.02	0.30	1089.9	0.15	5.50	5.37

Table 4, continued. Mean metal values in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P
MC	1.06	2509.7	13.78	0.32	138.72	250.17	N.D.	41.26	1.49	20.29
BB1A	0.99	3357.3	10.71	0.32	114.49	135.69	N.D.	38.50	1.33	46.35
BB1	6.79	12144.4	19.44	1.23	241.89	2331.2	N.D.	37.49	10.94	175.07
BB2A	0.86	3758.3	10.87	0.38	98.78	69.24	N.D.	41.92	1.60	30.74
BB2	1.82	3668.5	13.69	0.40	150.61	355.74	N.D.	37.50	3.57	29.49
BB3	1.51	5544.5	6.90	0.31	68.22	109.02	N.D.	43.14	3.81	34.64
BB4	0.92	3392.6	7.45	0.24	73.35	114.26	N.D.	41.78	1.31	32.88
BB5	1.18	2316.2	7.79	0.21	92.81	146.29	N.D.	37.41	1.77	16.67
BB6	1.58	3553.5	10.99	0.41	122.93	159.70	N.D.	39.37	2.75	24.84
BB7	1.37	1414.2	24.36	0.70	453.10	131.10	N.D.	53.37	2.62	7.87
BB8	1.88	2292.6	22.45	0.61	234.38	212.55	N.D.	34.24	1.99	24.69
BB9	2.15	1773.1	48.50	3.32	714.09	328.10	N.D.	52.02	5.12	20.30



Table 4, continued. Mean metal values in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V	Zn
MC	3.38	0.08	N.D.	21.10	N.D.	1.37	14.05	0.23	1.84	5.04
BB1A	3.55	0.12	N.D.	16.50	N.D.	1.21	15.76	N.D.	2.57	5.49
BB1	20.40	0.55	1.44	7.47	N.D.	7.72	3.83	5.66	3.65	17.65
BB2A	2.92	0.11	N.D.	14.74	N.D.	1.36	11.05	N.D.	2.94	5.54
BB2	8.38	0.13	N.D.	10.05	N.D.	3.10	7.41	0.33	2.47	10.81
BB3	3.61	0.27	N.D.	7.00	N.D.	1.49	6.80	N.D.	4.38	8.56
24 BB4	2.82	0.13	N.D.	12.84	N.D.	1.35	9.69	N.D.	2.98	7.08
BB5	3.51	0.08	N.D.	12.01	N.D.	1.50	5.73	N.D.	1.98	8.80
BB6	3.81	0.08	N.D.	14.57	N.D.	1.55	9.71	N.D.	2.33	9.47
BB7	3.26	0.06	N.D.	20.17	N.D.	7.62	7.68	N.D.	0.73	9.40
BB8	4.36	0.07	N.D.	21.65	N.D.	3.92	12.30	0.26	1.81	10.33
BB9	4.97	0.12	N.D.	30.27	N.D.	9.68	10.49	0.32	0.61	17.91

Table 5. Mean metal values in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr
LB1	N.D.	4133.3	N.D.	15.73	70.29	0.44	5221.1	0.15	7.79	2.11
LB2A	N.D.	3430.9	N.D.	14.46	37.40	0.24	978.88	0.18	2.98	9.27
LB2	N.D.	5500.4	0.43	13.97	30.12	0.28	1559.6	0.05	2.59	2.23
LB3	N.D.	3614.6	N.D.	16.14	44.87	0.24	1306.9	0.17	3.11	16.80
LB4	N.D.	2659.3	0.79	15.54	20.55	0.17	611.65	0.21	0.98	26.95
25 001	N.D.	3424.1	N.D.	14.95	12.49	0.29	1797.6	0.26	4.74	6.95
006	N.D.	4596.0	N.D.	15.46	24.40	0.18	1208.6	0.17	2.54	5.05
008	N.D.	3528.6	0.50	14.86	18.47	0.62	3865.0	0.55	4.53	27.72
010+011	N.D.	3730.8	N.D.	15.53	32.57	0.22	1393.3	0.21	2.81	8.23

Table 5, continued. Mean metal values in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P
LB1	3.85	1156.4	53.23	2.46	1133.2	565.70	N.D.	49.34	6.16	8.61
LB2A	1.95	2040.6	23.45	0.75	418.93	98.99	N.D.	77.75	2.74	11.20
LB2	1.18	551.9	34.46	1.21	664.40	85.73	N.D.	88.25	3.90	2.13
LB3	4.44	1784.3	32.31	1.10	585.37	235.79	N.D.	55.77	3.67	14.46
LB4	1.78	2729.6	18.27	0.60	216.05	48.37	N.D.	47.63	1.43	52.66
26 001	11.47	2051.4	26.75	2.97	775.08	41.25	N.D.	110.56	7.07	75.46
006	2.40	1971.6	37.22	1.53	454.16	205.46	N.D.	60.67	2.94	22.92
008	7.83	6200.2	23.83	1.56	442.63	240.59	N.D.	56.59	8.30	49.48
010+011	3.56	2324.1	28.45	1.19	479.38	88.06	N.D.	62.87	3.25	15.44

Table 5, continued. Mean metal values in sediments from Little Big Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Sediment Metal Conc. ( $\mu\text{g/g}$ )									
	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V	Zn
LB1	12.52	N.D.	0.30	21.17	N.D.	13.37	6.57	0.58	0.53	48.19
LB2A	5.05	0.11	N.D.	23.73	N.D.	13.25	5.64	N.D.	1.31	16.77
LB2	3.80	0.10	N.D.	23.15	N.D.	15.04	2.89	N.D.	0.16	9.77
LB3	7.25	0.15	N.D.	25.43	N.D.	12.53	9.39	0.34	0.96	34.68
LB4	3.37	0.31	N.D.	32.70	N.D.	5.49	10.45	N.D.	2.97	11.96
27 001	1.08	0.09	N.D.	17.47	N.D.	9.26	15.37	N.D.	1.96	35.45
006	3.85	0.07	N.D.	36.25	N.D.	6.84	9.24	0.34	1.03	11.18
008	7.34	0.41	N.D.	16.34	N.D.	10.86	3.54	0.31	3.69	36.84
010+011	4.83	0.12	N.D.	28.78	N.D.	9.16	6.47	N.D.	0.84	31.57

Table 6. Mean metal values in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. ( $\mu\text{g/g}$ )									
	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr
MC	N.D.	4464.6	2.13	15.75	44.77	0.21	916.50	0.60	5.12	6.11
BB1A	N.D.	3749.8	2.06	17.77	40.84	0.20	1175.2	0.54	4.21	6.48
BB1	N.D.	2271.8	1.33	18.67	45.40	0.12	9404.3	0.52	1.95	7.66
BB2A	N.D.	4714.6	2.28	14.97	43.36	0.27	1140.0	0.73	5.15	8.84
BB2	N.D.	4544.6	1.93	14.66	49.63	0.22	1764.4	0.60	4.31	7.09
BB3	N.D.	3353.2	2.04	16.26	34.82	0.21	1282.6	0.58	3.44	9.92
BB4	N.D.	4034.8	1.70	15.38	30.34	0.19	7073.6	0.55	3.46	7.71
BB5	N.D.	4178.2	2.03	15.59	40.97	0.22	1979.0	0.65	4.08	8.55
BB6	N.D.	4024.8	2.36	14.32	34.12	0.22	1174.8	0.67	4.12	10.26
BB7	N.D.	3059.5	1.36	14.60	30.57	0.17	726.12	0.50	3.17	6.69
BB8	N.D.	2999.2	1.29	15.41	27.60	0.14	924.34	0.41	2.64	6.89
BB9	N.D.	2802.6	0.85	15.21	25.46	0.15	5644.5	0.39	2.41	6.69

Table 6, continued. Mean metal values in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. ( $\mu\text{g/g}$ )									
	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P
MC	4.17	7860.4	54.56	4.96	567.36	497.68	0.27	41.51	4.75	220.96
BB1A	3.76	7004.4	57.17	4.01	502.67	444.01	N.D.	35.27	3.92	253.77
BB1	5.12	5576.3	47.35	2.15	495.32	313.16	N.D.	38.09	2.75	370.51
BB2A	4.07	9732.3	48.41	5.40	585.21	441.33	N.D.	33.10	4.55	217.15
BB2	4.76	7787.5	52.74	5.99	691.08	467.79	0.23	37.05	4.94	263.96
BB3	3.28	7615.4	46.24	3.55	407.32	286.67	0.25	38.16	3.38	235.68
29 BB4	3.92	7126.3	47.49	5.26	671.39	312.89	N.D.	38.97	4.10	283.52
BB5	4.50	8134.3	51.89	4.88	543.23	417.17	N.D.	33.65	4.33	236.64
BB6	5.40	8683.3	41.91	4.25	458.64	332.06	0.26	37.00	4.44	202.15
BB7	2.72	6229.4	39.36	2.99	343.39	382.99	N.D.	40.04	3.02	162.60
BB8	3.15	5142.8	45.55	2.95	359.88	246.37	N.D.	41.61	3.03	197.79
BB9	2.95	4715.6	39.42	3.92	467.53	185.49	N.D.	43.87	3.31	185.36

Table 6, continued. Mean metal values in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. ( $\mu\text{g/g}$ )									
	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V	Zn
MC	6.80	0.24	N.D.	26.12	N.D.	6.56	43.11	0.34	13.24	14.51
BB1A	6.94	0.22	N.D.	22.10	N.D.	8.49	48.27	0.27	13.69	14.46
BB1	3.97	0.21	N.D.	32.89	0.23	18.04	27.41	0.42	7.45	20.67
BB2A	7.82	0.32	N.D.	31.13	N.D.	9.29	47.32	0.21	16.86	16.71
BB2	7.13	0.23	N.D.	27.23	N.D.	9.31	45.27	0.28	13.84	18.54
BB3	6.17	0.30	N.D.	29.95	0.36	6.33	41.06	0.26	14.13	13.19
30 BB4	6.06	0.19	N.D.	25.29	N.D.	27.53	41.18	0.30	12.89	17.23
BB5	7.20	0.23	N.D.	33.84	N.D.	10.96	45.78	0.39	14.69	19.16
BB6	8.07	0.39	N.D.	30.87	N.D.	7.29	44.18	0.29	15.43	16.25
BB7	6.06	0.17	N.D.	32.86	0.23	4.50	38.96	0.31	11.79	11.47
BB8	4.64	0.16	N.D.	22.38	N.D.	5.13	28.71	0.29	9.57	13.52
BB9	3.76	0.12	N.D.	22.84	N.D.	8.12	39.43	N.D.	8.03	13.07

Table 7. Mean metal values in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. (µg/g)									
	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr
LB1	N.D.	5279.4	3.40	15.13	76.56	0.30	9216.02	0.87	5.72	8.70
LB2A	N.D.	5614.7	3.59	14.38	63.84	0.38	1363.51	0.95	6.48	20.62
LB2	N.D.	4989.8	1.36	14.81	46.37	0.20	1758.82	0.53	3.36	16.45
LB3	N.D.	4036.3	1.45	14.01	40.20	0.19	9639.30	0.53	3.24	16.44
LB4	0.05	3382.1	1.03	16.12	35.42	0.18	1424.00	0.43	2.53	33.39
31 001	N.D.	5229.1	3.03	14.63	79.67	0.29	2008.25	0.86	6.39	9.67
006	N.D.	4348.6	2.23	15.06	42.35	0.24	1779.19	0.69	4.54	9.07
008	N.D.	4729.1	1.67	14.99	44.13	0.29	9267.01	0.82	3.04	15.73
010+011	N.D.	2794.2	0.67	16.38	39.68	0.11	1618.60	0.34	1.65	8.71



Table 7, continued. Mean metal values in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. ( $\mu\text{g/g}$ )									
	Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P
LB1	6.39	10346.6	75.29	7.77	1113.8	811.10	0.23	47.57	6.84	400.24
LB2A	5.76	12377.0	49.07	6.16	684.74	597.49	0.28	43.06	5.31	271.77
LB2	5.00	6613.9	44.27	6.08	686.56	407.69	N.D.	37.84	5.48	305.33
LB3	4.55	6389.6	50.05	4.81	706.56	259.26	N.D.	50.59	3.71	253.37
LB4	5.98	4926.0	38.55	3.55	403.07	350.35	N.D.	41.61	3.89	183.38
32 001	6.41	10631.2	66.47	7.22	1055.4	641.16	0.39	65.17	8.17	392.50
006	4.50	8599.4	47.27	4.99	568.71	444.60	N.D.	41.71	4.60	224.89
008	8.90	9489.9	56.52	6.78	1082.3	200.37	0.25	47.22	8.47	203.49
010+011	3.97	3488.0	37.61	3.12	459.87	271.55	N.D.	36.23	3.24	149.32

Table 7, continued. Mean metal values in floodplain soils from Little Big Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Floodplain Soil Metal Conc. ( $\mu\text{g/g}$ )									
	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V	Zn
LB1	9.00	0.39	0.24	27.42	N.D.	16.32	48.20	0.56	19.28	48.09
LB2A	9.50	0.63	N.D.	24.84	0.27	14.63	32.13	0.61	20.09	31.12
LB2	7.02	0.36	N.D.	27.71	N.D.	9.80	33.01	0.29	12.31	29.44
LB3	5.77	0.29	N.D.	27.27	N.D.	25.64	28.01	0.23	12.16	27.82
LB4	5.67	0.40	N.D.	39.49	N.D.	10.09	31.56	0.32	10.07	29.35
33 001	8.80	0.38	N.D.	25.93	N.D.	12.57	55.51	0.40	20.46	22.21
006	7.80	0.35	N.D.	34.10	N.D.	10.17	42.73	0.28	15.48	16.52
008	8.43	0.33	N.D.	21.03	N.D.	23.42	31.48	0.26	19.37	29.79
010+011	3.28	0.18	N.D.	40.63	N.D.	11.20	24.88	0.30	6.42	27.70

Table A1. Metal concentrations in water from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)								
			Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr
MC	05/25/06	MSW1	<1.00	<500.00	<10.00	63.05	<0.50	13944.0	<0.50	<0.50	<0.50
MC	05/25/06	MSW2	<1.00	<500.00	<10.00	62.67	<0.50	14310.3	<0.50	<0.50	<0.50
BB1A	05/23/06	MSW1	<1.00	<500.00	<10.00	41.47	<0.50	15861.5	<0.50	<0.50	<0.50
BB1A	05/23/06	MSW2	<1.00	<500.00	<10.00	42.27	<0.50	16059.7	<0.50	<0.50	<0.50
BB1	05/23/06	MSW1	<1.00	<500.00	<10.00	40.56	<0.50	17874.0	<0.50	<0.50	<0.50
BB1	05/23/06	MSW2	<1.00	<500.00	<10.00	40.48	<0.50	17880.2	<0.50	<0.50	<0.50
BB2	05/23/06	MSW1	<1.00	<500.00	<10.00	39.98	<0.50	14668.5	<0.50	<0.50	<0.50
BB2	05/23/06	MSW2	<1.00	<500.00	<10.00	38.60	<0.50	14221.6	<0.50	<0.50	<0.50
BB2A	05/23/06	MSW1	<1.00	<500.00	<10.00	32.18	<0.50	22182.8	<0.50	<0.50	<0.50
BB3	05/23/06	MSW1	<1.00	<500.00	<10.00	34.92	<0.50	21782.3	<0.50	<0.50	<0.50
34 BB3	05/23/06	MSW2	<1.00	<500.00	<10.00	34.21	<0.50	21549.1	<0.50	<0.50	<0.50
BB4	05/23/06	MSW1	<1.00	<500.00	<10.00	27.39	<0.50	20522.2	<0.50	<0.50	<0.50
BB4	05/23/06	MSW2	<1.00	<500.00	<10.00	27.83	<0.50	20973.2	<0.50	<0.50	<0.50
BB5	05/23/06	MSW1	<1.00	<500.00	<10.00	19.30	<0.50	16634.5	<0.50	0.54	0.75
BB5	05/23/06	MSW2	<1.00	649.56	<10.00	30.05	<0.50	17028.7	<0.50	2.20	1.64
BB6	05/23/06	MSW1	<1.00	<500.00	<10.00	26.55	<0.50	30380.3	<0.50	1.01	1.42
BB6	05/23/06	MSW2	<1.00	<500.00	<10.00	22.36	<0.50	30355.5	<0.50	<0.50	<0.50
BB7	05/25/06	MSW1	<1.00	513.00	<10.00	38.57	<0.50	24053.9	<0.50	0.70	1.03
BB7	05/25/06	MSW2	<1.00	502.22	<10.00	38.23	<0.50	24059.0	<0.50	0.73	0.79
BB8	05/25/06	MSW1	<1.00	508.16	<10.00	40.03	<0.50	22649.3	<0.50	0.71	0.87
BB8	05/25/06	MSW2	<1.00	502.09	<10.00	39.87	<0.50	22653.4	<0.50	0.61	0.63
BB9	05/25/06	MSW1	<1.00	629.95	<10.00	41.50	<0.50	16430.2	<0.50	1.02	1.21
BB9	05/25/06	MSW2	<1.00	596.17	<10.00	41.23	<0.50	16147.4	<0.50	0.98	0.93

<sup>1</sup> MSW1 and MSW2 are separate samples.

Table A1, continued. Metal concentrations in water from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)								
			Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni
MC	05/25/06	MSW1	1.72	431.80	5869.0	0.55	3244.0	47.45	1.04	21780.0	1.52
MC	05/25/06	MSW2	1.66	447.09	5643.4	<0.5	3181.4	46.64	1.05	20806.2	1.24
BB1A	05/23/06	MSW1	<1.00	196.21	4017.4	0.83	3693.5	130.42	1.13	27801.6	1.12
BB1A	05/23/06	MSW2	<1.00	196.72	4090.9	0.81	3761.3	129.61	<1.00	25815.9	1.15
BB1	05/23/06	MSW1	<1.00	238.37	3917.4	0.76	3751.6	159.37	<1.00	27295.1	<1.00
BB1	05/23/06	MSW2	<1.00	239.33	3857.5	0.75	3692.5	167.91	1.10	25828.6	1.17
BB2	05/23/06	MSW1	<1.00	154.97	3182.8	0.92	3219.8	39.52	<1.00	27941.4	<1.00
BB2	05/23/06	MSW2	<1.00	64.05	3121.3	0.90	3156.7	15.68	1.10	27139.7	<1.00
BB2A	05/23/06	MSW1	<1.00	380.87	3785.5	3.52	4663.7	14.96	1.47	28975.8	<1.00
BB3	05/23/06	MSW1	1.45	527.84	4042.6	4.10	4636.1	88.44	1.44	27728.2	<1.00
35 BB3	05/23/06	MSW2	1.34	546.97	3963.4	4.09	4560.8	80.92	1.45	26594.1	1.03
BB4	05/23/06	MSW1	2.69	195.53	4667.6	3.51	5897.5	26.25	22.94	32870.9	1.69
BB4	05/23/06	MSW2	2.81	198.95	4746.0	3.63	5902.2	26.69	22.53	33381.2	1.50
BB5	05/23/06	MSW1	2.14	738.51	3609.2	3.06	6287.9	51.45	9.94	30955.6	1.23
BB5	05/23/06	MSW2	5.56	2955.7	3652.5	3.47	6580.9	290.49	6.35	32084.8	2.49
BB6	05/23/06	MSW1	5.08	698.35	6773.2	9.25	11519.5	65.75	6.63	58825.6	2.95
BB6	05/23/06	MSW2	2.99	251.34	6718.5	9.11	11403.7	26.64	8.16	57922.2	2.25
BB7	05/25/06	MSW1	3.61	688.54	7723.6	4.53	6448.7	84.14	3.12	29243.7	2.72
BB7	05/25/06	MSW2	3.56	686.67	7821.1	4.46	6527.5	84.71	3.10	32132.7	2.73
BB8	05/25/06	MSW1	3.24	665.72	7595.7	4.04	6086.6	86.06	3.02	31606.7	3.01
BB8	05/25/06	MSW2	3.14	627.71	7717.2	4.07	6141.6	84.34	3.17	28943.5	2.51
BB9	05/25/06	MSW1	3.06	954.39	6298.2	2.23	3723.7	169.29	1.74	28340.3	2.78
BB9	05/25/06	MSW2	2.74	924.62	6220.1	2.25	3709.7	169.83	1.51	21195.3	3.04

<sup>1</sup> MSW1 and MSW2 are separate samples.

Table A1, continued. Metal concentrations in water from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)									
			P	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
MC	05/25/06	MSW1	132.46	1.03	<1.00	<5.00	<5.00	75.69	4.73	<5.00	1.19	<1.00
MC	05/25/06	MSW2	135.07	1.23	<1.00	<5.00	<5.00	76.23	5.36	<5.00	1.09	1.02
BB1A	05/23/06	MSW1	63.42	<1.00	<1.00	<5.00	<5.00	76.10	0.92	<5.00	0.69	<1.00
BB1A	05/23/06	MSW2	62.98	<1.00	<1.00	<5.00	<5.00	76.66	0.67	<5.00	0.92	<1.00
BB1	05/23/06	MSW1	63.66	<1.00	<1.00	<5.00	<5.00	83.56	0.72	<5.00	0.76	<1.00
BB1	05/23/06	MSW2	63.72	<1.00	<1.00	<5.00	<5.00	83.32	0.92	<5.00	0.86	<1.00
BB2	05/23/06	MSW1	61.75	<1.00	<1.00	<5.00	<5.00	90.95	1.67	<5.00	1.10	5.34
BB2	05/23/06	MSW2	55.46	<1.00	<1.00	<5.00	<5.00	81.02	0.83	<5.00	1.03	<1.00
BB2A	05/23/06	MSW1	51.01	<1.00	<1.00	<5.00	<5.00	181.42	5.78	<5.00	1.06	1.11
BB3	05/23/06	MSW1	72.20	<1.00	<1.00	<5.00	<5.00	192.51	1.01	<5.00	1.67	27.98
BB3	05/23/06	MSW2	72.81	<1.00	<1.00	<5.00	<5.00	191.07	1.21	<5.00	1.70	19.32
BB4	05/23/06	MSW1	262.05	<1.00	<1.00	<5.00	<5.00	183.46	1.22	<5.00	0.87	4.58
BB4	05/23/06	MSW2	267.34	<1.00	<1.00	<5.00	<5.00	185.45	1.09	<5.00	0.89	4.08
BB5	05/23/06	MSW1	135.69	1.04	<1.00	<5.00	<5.00	94.71	2.99	<5.00	1.36	3.20
BB5	05/23/06	MSW2	228.83	2.64	<1.00	<5.00	<5.00	98.57	2.84	<5.00	3.44	21.36
BB6	05/23/06	MSW1	160.56	1.10	<1.00	<5.00	<5.00	196.65	1.49	<5.00	1.54	7.99
BB6	05/23/06	MSW2	121.11	<1.00	<1.00	<5.00	<5.00	193.84	1.50	<5.00	0.97	1.38
BB7	05/25/06	MSW1	210.14	1.73	<1.00	<5.00	<5.00	264.79	6.61	<5.00	2.27	9.38
BB7	05/25/06	MSW2	210.65	1.95	<1.00	<5.00	<5.00	261.77	5.84	<5.00	2.37	8.97
BB8	05/25/06	MSW1	198.19	1.51	<1.00	<5.00	<5.00	220.62	6.57	<5.00	2.38	5.05
BB8	05/25/06	MSW2	194.95	1.44	<1.00	<5.00	<5.00	220.07	5.77	<5.00	2.41	5.68
BB9	05/25/06	MSW1	257.72	2.69	<1.00	<5.00	<5.00	160.35	4.07	<5.00	3.28	6.49
BB9	05/25/06	MSW2	257.44	1.80	<1.00	<5.00	<5.00	161.82	3.65	<5.00	3.26	6.36

<sup>1</sup> MSW1 and MSW2 are separate samples.

Table A2. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)								
			Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr
LB1	05/24/06	MSW1	<1.00	1672.1	<10.00	187.16	<0.50	30888.1	<0.50	4.77	2.22
LB1	05/24/06	MSW2	<1.00	797.66	<10.00	126.68	<0.50	28948.9	<0.50	1.72	0.92
LB2A	05/24/06	MSW1	<1.00	<500.00	<10.00	111.93	<0.50	26743.4	<0.50	<0.50	1.37
LB2A	05/24/06	MSW2	<1.00	<500.00	<10.00	112.02	<0.50	26963.2	<0.50	<0.50	1.67
LB2	05/24/06	MSW1	<1.00	<500.00	<10.00	55.94	<0.50	23163.2	<0.50	<0.50	1.23
LB2	05/24/06	MSW2	<1.00	<500.00	<10.00	61.38	<0.50	23032.1	<0.50	<0.50	1.43
LB3	05/24/06	MSW1	<1.00	<500.00	<10.00	42.31	<0.50	20843.2	<0.50	<0.50	3.38
LB3	05/24/06	MSW2	<1.00	<500.00	<10.00	41.73	<0.50	21183.8	<0.50	<0.50	2.72
LB4	05/24/06	MSW1	<1.00	<500.00	<10.00	43.99	<0.50	20406.6	<0.50	<0.50	1.78
LB4	05/24/06	MSW2	<1.00	<500.00	<10.00	44.56	<0.50	20381.9	<0.50	<0.50	1.68
37 001	05/23/06	MSW1	<1.00	596.28	<10.00	37.75	<0.50	53359.8	<0.50	2.03	3.28
001	05/23/06	MSW2	<1.00	<500.00	<10.00	32.29	<0.50	58154.7	<0.50	1.12	1.68
006	05/23/06	MSW1	<1.00	<500.00	<10.00	10.78	<0.50	13220.5	<0.50	<0.50	0.87
006	05/23/06	MSW2	<1.00	<500.00	<10.00	11.40	<0.50	13012.0	<0.50	<0.50	0.60
008	05/23/06	MSW1	<1.00	891.72	<10.00	61.86	<0.50	21023.8	1.27	2.92	7.51
008	05/23/06	MSW2	<1.00	1014.1	<10.00	67.49	<0.50	20818.4	1.24	3.19	8.03
010+011	05/24/06	MSW1	<1.00	<500.00	<10.00	19.56	<0.50	18229.0	<0.50	<0.50	1.75
010+011	05/24/06	MSW2	<1.00	<500.00	<10.00	19.40	<0.50	18183.6	<0.50	<0.50	1.70

<sup>1</sup> MSW1 and MSW2 are separate samples.

Table A2, continued. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)								
			Cu	Fe	K	Li	Mg	Mn	Mo	Na	Ni
LB1	05/24/06	MSW1	5.65	3869.1	4071.9	1.87	4393.1	1009.4	1.17	18314.1	6.74
LB1	05/24/06	MSW2	2.75	1812.6	3804.5	0.91	4001.3	620.74	1.37	18158.6	4.14
LB2A	05/24/06	MSW1	<1.00	419.55	2649.3	3.08	7783.0	50.48	1.38	50867.2	<1.00
LB2A	05/24/06	MSW2	1.18	393.79	2654.9	3.10	7808.2	49.92	1.97	51277.8	1.08
LB2	05/24/06	MSW1	1.48	309.23	3186.0	3.58	8067.3	44.19	1.82	47858.9	<1.00
LB2	05/24/06	MSW2	2.03	396.89	3314.9	3.77	8312.2	53.41	1.47	46382.6	1.26
LB3	05/24/06	MSW1	1.95	391.21	3533.1	3.59	7546.7	75.60	2.24	41480.4	1.30
LB3	05/24/06	MSW2	2.08	352.60	3604.9	3.56	7703.4	74.30	1.96	43043.7	<1.00
LB4	05/24/06	MSW1	1.60	653.12	3307.1	2.69	5993.8	90.92	1.69	35365.9	<1.00
LB4	05/24/06	MSW2	1.56	601.74	3217.1	2.69	5942.6	80.73	2.10	36190.1	1.10
001	05/23/06	MSW1	11.71	1299.7	18628.3	23.65	23322.9	68.78	5.11	237679.1	6.52
001	05/23/06	MSW2	7.57	544.99	18363.0	22.86	21868.9	41.69	5.92	224096.9	4.65
006	05/23/06	MSW1	<1.00	406.76	2559.6	2.44	6603.4	26.96	1.85	30275.1	<1.00
006	05/23/06	MSW2	<1.00	410.71	2575.0	2.40	6612.6	27.39	2.22	29018.8	1.08
008	05/23/06	MSW1	<1.00	3757.9	6592.4	5.77	8714.2	344.85	38.04	47910.7	16.99
008	05/23/06	MSW2	<1.00	4049.9	6560.4	5.86	8685.3	417.80	38.84	44579.7	18.11
010+011	05/24/06	MSW1	2.26	249.28	3884.7	4.27	8068.6	19.26	2.81	43174.8	1.23
010+011	05/24/06	MSW2	2.30	241.39	3880.7	4.21	8043.6	19.36	2.27	42677.1	<1.00

<sup>1</sup> MSW1 and MSW2 are separate samples.

Table A2, continued. Metal concentrations in water samples from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Water Metal Conc. (µg/L)									
			P	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
LB1	05/24/06	MSW1	245.73	8.53	<1.00	<5.00	<5.00	155.69	4.03	<5.00	10.07	39.07
LB1	05/24/06	MSW2	141.40	2.33	<1.00	<5.00	<5.00	148.01	4.38	<5.00	3.89	13.89
LB2A	05/24/06	MSW1	93.18	<1.00	<1.00	<5.00	<5.00	311.95	1.20	<5.00	1.20	4.05
LB2A	05/24/06	MSW2	92.65	1.03	<1.00	<5.00	<5.00	314.41	0.96	<5.00	1.25	3.43
LB2	05/24/06	MSW1	178.88	1.05	<1.00	<5.00	<5.00	290.91	1.36	<5.00	1.06	4.30
LB2	05/24/06	MSW2	190.39	1.31	<1.00	<5.00	<5.00	297.33	0.95	<5.00	1.20	7.60
LB3	05/24/06	MSW1	193.63	<1.00	<1.00	<5.00	<5.00	258.89	1.62	<5.00	1.26	7.50
LB3	05/24/06	MSW2	193.89	<1.00	<1.00	<5.00	<5.00	261.42	0.89	<5.00	1.23	7.07
LB4	05/24/06	MSW1	96.63	1.06	<1.00	<5.00	<5.00	279.88	1.30	<5.00	1.44	1.99
LB4	05/24/06	MSW2	92.85	<1.00	<1.00	<5.00	<5.00	277.30	1.46	<5.00	1.32	1.36
001	05/23/06	MSW1	251.32	2.39	<1.00	<5.00	<5.00	237.15	3.80	<5.00	2.45	19.46
001	05/23/06	MSW2	181.57	<1.00	<1.00	<5.00	<5.00	234.37	3.28	<5.00	1.58	6.67
006	05/23/06	MSW1	<20.00	1.09	<1.00	<5.00	<5.00	57.08	2.13	<5.00	0.89	<1.00
006	05/23/06	MSW2	<20.00	1.09	<1.00	<5.00	<5.00	56.36	2.25	<5.00	0.82	<1.00
008	05/23/06	MSW1	1616.6	12.98	<1.00	<5.00	<5.00	152.21	6.31	<5.00	2.41	165.43
008	05/23/06	MSW2	1653.4	13.48	<1.00	<5.00	<5.00	154.72	6.39	<5.00	2.56	166.99
010+011	05/24/06	MSW1	278.63	<1.00	<1.00	<5.00	<5.00	99.09	1.72	<5.00	0.88	4.26
010+011	05/24/06	MSW2	279.61	<1.00	<1.00	<5.00	<5.00	100.25	1.52	<5.00	0.97	4.38

<sup>1</sup>MSW1 and MSW2 are separate samples.



Table A3. Metal concentrations in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)							
			Ag	Al	As	B	Ba	Be	Ca	Cd
MC	05/25/06	MSED1	<0.04	1779.2	<0.45	11.29	30.62	0.14	375.02	0.19
MC	05/25/06	MSED2	<0.05	1483.9	<0.49	16.68	15.36	0.12	347.79	0.21
BB1A	05/23/06	MSED1	<0.05	1355.5	0.48	16.38	12.33	0.22	364.17	0.37
BB1A	05/23/06	MSED2	<0.04	1546.4	<0.44	16.71	14.67	0.10	364.69	0.14
BB1	05/23/06	MSED1	0.19	2988.9	1.15	13.15	6.50	1.31	1960.4	1.32
BB1	05/23/06	MSED2	<0.05	2321.6	<0.50	15.97	33.72	0.59	2537.0	0.68
BB2A	05/23/06	MSED1	<0.05	1170.5	<0.47	17.22	7.43	0.13	368.81	0.24
BB2A	05/23/06	MSED2	<0.05	1605.7	0.50	18.22	11.09	0.16	463.96	0.34
BB2	05/23/06	MSED1	<0.04	1628.0	0.45	14.42	19.47	0.50	470.47	0.34
BB2	05/23/06	MSED2	<0.05	1867.9	<0.48	17.22	28.75	0.32	1056.5	0.25
BB3	05/23/06	MSED1	<0.05	1526.4	0.64	15.81	9.84	0.37	372.29	0.45
40 BB3	05/23/06	MSED2	<0.05	1712.1	0.47	16.31	7.23	0.34	435.62	0.40
BB4	05/23/06	MSED1	<0.05	1302.7	<0.46	16.25	10.76	0.15	395.69	0.25
BB4	05/23/06	MSED2	<0.05	1170.8	0.55	15.95	10.06	0.13	365.47	0.28
BB5	05/23/06	MSED1	<0.05	1258.1	0.47	11.12	10.34	0.14	388.41	0.12
BB5	05/23/06	MSED2	<0.04	1357.4	0.45	16.03	13.24	0.24	389.49	0.27
BB6	05/23/06	MSED1	<0.05	1678.9	<0.47	16.58	17.47	0.31	498.33	0.33
BB6	05/23/06	MSED2	<0.05	1480.0	<0.47	16.28	10.08	0.12	418.17	0.23
BB7	05/25/06	MSED1	<0.05	4215.4	0.45	15.89	41.50	0.22	1340.4	0.07
BB7	05/25/06	MSED2	<0.05	1390.0	<0.47	16.31	8.62	0.13	369.03	0.17
BB8	05/25/06	MSED1	<0.05	2169.2	<0.47	15.39	25.96	0.14	657.85	0.26
BB8	05/25/06	MSED2	<0.04	2394.3	<0.44	12.77	23.73	0.15	729.28	0.14
BB9	05/25/06	MSED1	<0.05	5046.0	<0.45	16.21	69.72	0.27	1048.4	0.09
BB9	05/25/06	MSED2	<0.04	2856.7	<0.44	15.49	32.32	0.33	1131.4	0.21

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A3, continued. Metal concentrations in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)							
			Co	Cr	Cu	Fe	K	Li	Mg	Mn
MC	05/25/06	MSED1	3.06	3.37	1.14	2405.2	17.48	0.38	180.73	307.16
MC	05/25/06	MSED2	2.03	4.54	0.97	2614.2	10.08	0.26	96.70	193.18
BB1A	05/23/06	MSED1	2.09	6.60	1.07	4920.6	8.48	0.26	85.78	163.09
BB1A	05/23/06	MSED2	1.45	2.93	0.90	1794.0	12.94	0.37	143.20	108.29
BB1	05/23/06	MSED1	29.38	27.33	10.70	15413.2	23.31	1.60	303.32	4373.8
BB1	05/23/06	MSED2	4.95	18.18	2.87	8875.5	15.57	0.85	180.46	288.58
BB2A	05/23/06	MSED1	1.33	7.16	0.82	3112.8	6.38	0.19	57.07	85.25
BB2A	05/23/06	MSED2	1.59	5.35	0.91	4403.9	15.36	0.56	140.50	53.22
BB2	05/23/06	MSED1	4.32	8.43	2.06	4316.7	8.60	0.35	85.93	321.76
BB2	05/23/06	MSED2	4.66	4.57	1.57	3020.4	18.77	0.44	215.29	389.71
41 BB3	05/23/06	MSED1	2.66	12.54	1.52	5890.2	7.00	0.35	75.89	125.92
BB3	05/23/06	MSED2	2.65	5.40	1.49	5198.8	6.80	0.27	60.56	92.13
BB4	05/23/06	MSED1	1.48	4.29	1.01	3262.0	8.37	0.28	88.33	124.26
BB4	05/23/06	MSED2	1.25	5.67	0.83	3523.1	6.54	0.19	58.37	104.25
BB5	05/23/06	MSED1	1.24	3.04	0.84	1482.4	7.11	0.17	76.69	113.43
BB5	05/23/06	MSED2	2.22	5.49	1.52	3149.9	8.46	0.26	108.93	179.15
BB6	05/23/06	MSED1	3.23	9.84	1.98	4182.5	11.38	0.49	150.21	214.37
BB6	05/23/06	MSED2	1.39	5.14	1.18	2924.6	10.59	0.34	95.66	105.03
BB7	05/25/06	MSED1	2.47	3.27	1.74	755.74	40.31	1.14	818.48	163.79
BB7	05/25/06	MSED2	1.38	3.80	1.00	2072.6	8.42	0.27	87.73	98.41
BB8	05/25/06	MSED1	2.33	5.85	1.82	3029.0	21.60	0.59	214.53	208.92
BB8	05/25/06	MSED2	2.46	4.01	1.95	1556.2	23.29	0.64	254.22	216.18
BB9	05/25/06	MSED1	7.31	2.29	1.52	1083.8	57.53	4.59	979.90	432.70
BB9	05/25/06	MSED2	3.69	8.44	2.79	2462.3	39.47	2.05	448.28	223.50

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A3, continued. Metal concentrations in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)						
			Mo	Na	Ni	P	Pb	Sb	Se
MC	05/25/06	MSED1	<0.22	41.53	1.58	24.54	3.94	0.07	<0.22
MC	05/25/06	MSED2	<0.24	40.99	1.40	16.03	2.82	0.10	<0.24
BB1A	05/23/06	MSED1	<0.24	42.10	1.47	71.98	4.06	0.15	<0.24
BB1A	05/23/06	MSED2	<0.22	34.90	1.19	20.71	3.04	0.08	<0.22
BB1	05/23/06	MSED1	<0.23	38.44	16.66	295.73	32.52	0.64	1.44
BB1	05/23/06	MSED2	<0.25	36.54	5.22	54.42	8.28	0.46	<0.25
BB2A	05/23/06	MSED1	<0.24	42.27	1.87	32.97	2.41	0.08	<0.24
BB2A	05/23/06	MSED2	<0.25	41.56	1.34	28.51	3.43	0.13	<0.25
BB2	05/23/06	MSED1	<0.22	32.55	4.42	36.26	7.35	0.17	<0.22
BB2	05/23/06	MSED2	<0.24	42.45	2.71	22.72	9.42	0.08	<0.24
42 BB3	05/23/06	MSED1	<0.23	42.59	3.27	47.06	4.35	0.31	<0.23
BB3	05/23/06	MSED2	<0.23	43.70	4.34	22.21	2.88	0.23	<0.23
BB4	05/23/06	MSED1	<0.23	43.89	1.41	21.65	3.28	0.07	<0.23
BB4	05/23/06	MSED2	<0.24	39.68	1.21	44.12	2.36	0.20	<0.24
BB5	05/23/06	MSED1	<0.23	43.08	1.21	13.31	2.69	0.08	<0.23
BB5	05/23/06	MSED2	<0.22	31.75	2.34	20.03	4.33	0.08	<0.22
BB6	05/23/06	MSED1	<0.23	42.35	3.80	21.86	5.06	0.09	<0.23
BB6	05/23/06	MSED2	<0.24	36.40	1.70	27.81	2.56	0.07	<0.24
BB7	05/25/06	MSED1	<0.23	62.34	3.61	3.09	4.13	<0.05	<0.23
BB7	05/25/06	MSED2	<0.23	44.41	1.63	12.64	2.39	0.06	<0.23
BB8	05/25/06	MSED1	<0.24	35.51	2.16	38.54	4.77	0.08	<0.24
BB8	05/25/06	MSED2	<0.22	32.96	1.83	10.85	3.96	0.06	<0.22
BB9	05/25/06	MSED1	<0.23	60.70	6.13	7.77	4.22	0.06	<0.23
BB9	05/25/06	MSED2	<0.22	43.35	4.11	32.84	5.72	0.17	<0.22

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A3, continued. Metal concentrations in sediments from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)						
			Si	Sn	Sr	Ti	Tl	V	Zn
MC	05/25/06	MSED1	28.82	<0.22	1.65	16.45	0.23	2.20	5.69
MC	05/25/06	MSED2	13.38	<0.24	1.09	11.65	<0.24	1.49	4.38
BB1A	05/23/06	MSED1	11.38	<0.24	1.04	13.34	<0.24	3.55	5.91
BB1A	05/23/06	MSED2	21.62	<0.22	1.39	18.18	<0.22	1.60	5.06
BB1	05/23/06	MSED1	6.72	<0.23	11.04	3.52	5.66	3.96	23.06
BB1	05/23/06	MSED2	8.21	<0.25	4.41	4.15	<0.25	3.33	12.24
BB2A	05/23/06	MSED1	12.20	<0.24	1.08	9.80	<0.24	2.87	5.22
BB2A	05/23/06	MSED2	17.28	<0.25	1.64	12.30	<0.25	3.01	5.86
BB2	05/23/06	MSED1	6.28	<0.22	1.81	6.62	0.25	3.00	10.92
BB2	05/23/06	MSED2	13.82	<0.24	4.39	8.21	0.40	1.93	10.70
43 BB3	05/23/06	MSED1	7.33	<0.23	1.76	8.74	<0.23	6.03	9.18
BB3	05/23/06	MSED2	6.68	<0.23	1.23	4.86	<0.23	2.73	7.94
BB4	05/23/06	MSED1	13.63	<0.23	1.60	8.83	<0.23	2.69	7.60
BB4	05/23/06	MSED2	12.05	<0.24	1.10	10.54	<0.24	3.27	6.56
BB5	05/23/06	MSED1	12.61	<0.23	1.29	4.86	<0.23	1.82	6.84
BB5	05/23/06	MSED2	11.41	<0.22	1.70	6.60	<0.22	2.15	10.77
BB6	05/23/06	MSED1	11.14	<0.23	1.89	6.40	<0.23	2.73	12.18
BB6	05/23/06	MSED2	18.01	<0.24	1.22	13.01	<0.24	1.93	6.76
BB7	05/25/06	MSED1	22.92	<0.23	13.90	7.82	<0.23	0.35	12.02
BB7	05/25/06	MSED2	17.41	<0.23	1.33	7.55	<0.23	1.11	6.78
BB8	05/25/06	MSED1	19.77	<0.24	3.10	15.57	<0.24	2.57	10.01
BB8	05/25/06	MSED2	23.54	<0.22	4.74	9.02	0.26	1.04	10.66
BB9	05/25/06	MSED1	39.49	<0.23	11.79	11.33	0.39	0.40	18.43
BB9	05/25/06	MSED2	21.04	<0.22	7.57	9.65	0.25	0.82	17.38

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A4. Metal concentrations in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)							
			Ag	Al	As	B	Ba	Be	Ca	Cd
LB1	05/24/06	MSED1	<0.05	4102.7	<0.46	15.59	67.29	0.50	7182.5	0.16
LB1	05/24/06	MSED2	<0.04	4163.9	<0.44	15.86	73.28	0.38	3259.7	0.15
LB2A	05/24/06	MSED1	<0.04	2411.3	<0.44	14.92	24.82	0.24	790.56	0.25
LB2A	05/24/06	MSED2	<0.05	4450.6	<0.46	14.00	49.99	0.24	1167.2	0.10
LB2	05/24/06	MSED1	<0.05	5655.9	<0.46	14.72	24.46	0.30	1544.6	<0.05
LB2	05/24/06	MSED2	<0.04	5344.9	0.43	13.21	35.79	0.25	1574.6	0.05
LB3	05/24/06	MSED1	<0.05	4679.8	<0.47	17.06	56.46	0.18	1384.3	0.13
LB3	05/24/06	MSED2	<0.04	2549.4	<0.43	15.22	33.28	0.30	1229.6	0.21
LB4	05/24/06	MSED1	<0.04	3958.6	<0.44	14.88	32.07	0.18	827.60	0.12
44 LB4	05/24/06	MSED2	<0.05	1360.1	0.79	16.21	9.03	0.16	395.70	0.30
001	05/23/06	MSED1	<0.04	3463.7	<0.41	13.89	3.59	0.30	1846.1	0.25
001	05/23/06	MSED2	<0.05	3384.5	<0.46	16.02	21.40	0.27	1749.1	0.28
006	05/23/06	MSED1	<0.05	3694.0	<0.47	15.13	33.50	0.18	1462.2	0.23
006	05/23/06	MSED2	<0.05	5498.0	<0.49	15.79	15.30	0.18	955.05	0.10
008	05/23/06	MSED1	<0.05	3329.1	<0.47	13.81	20.82	0.54	6562.0	0.41
008	05/23/06	MSED2	<0.05	3728.0	0.50	15.91	16.13	0.71	1168.0	0.69
010+011	05/24/06	MSED1	<0.05	3491.9	<0.47	15.09	32.93	0.27	1627.1	0.23
010+011	05/24/06	MSED2	<0.05	3969.7	<0.50	15.97	32.20	0.18	1159.6	0.20

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A4, continued. Metal concentrations in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)							
			Co	Cr	Cu	Fe	K	Li	Mg	Mn
LB1	05/24/06	MSED1	7.83	2.27	4.83	1215.8	53.44	3.27	1377.6	579.78
LB1	05/24/06	MSED2	7.75	1.94	2.88	1097.0	53.01	1.65	888.89	551.61
LB2A	05/24/06	MSED1	3.26	6.48	1.76	2962.7	17.71	0.62	235.59	117.61
LB2A	05/24/06	MSED2	2.70	12.06	2.14	1118.4	29.19	0.88	602.27	80.38
LB2	05/24/06	MSED1	2.37	1.98	1.25	498.62	33.39	1.23	660.75	104.81
LB2	05/24/06	MSED2	2.80	2.49	1.12	605.27	35.53	1.19	668.05	66.65
LB3	05/24/06	MSED1	2.13	21.19	5.54	1420.8	43.44	1.64	855.89	158.24
LB3	05/24/06	MSED2	4.08	12.40	3.34	2147.7	21.18	0.57	314.84	313.34
LB4	05/24/06	MSED1	0.78	4.12	1.59	1590.6	30.62	0.98	384.04	45.88
45 LB4	05/24/06	MSED2	1.18	49.77	1.98	3868.6	5.93	0.21	48.06	50.87
001	05/23/06	MSED1	5.04	7.28	11.28	1829.9	13.01	2.70	774.26	38.11
001	05/23/06	MSED2	4.44	6.63	11.67	2272.8	40.49	3.25	775.89	44.40
006	05/23/06	MSED1	3.69	5.90	3.15	2605.2	40.33	1.36	535.02	338.82
006	05/23/06	MSED2	1.38	4.19	1.66	1337.9	34.10	1.70	373.30	72.11
008	05/23/06	MSED1	4.09	20.78	7.38	4046.6	27.84	1.70	594.55	319.59
008	05/23/06	MSED2	4.96	34.66	8.27	8353.8	19.82	1.41	290.72	161.60
010+011	05/24/06	MSED1	3.07	7.99	3.27	2602.8	24.95	1.15	455.39	116.91
010+011	05/24/06	MSED2	2.54	8.47	3.85	2045.5	31.96	1.23	503.36	59.21

<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A4, continued. Metal concentrations in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)						
			Mo	Na	Ni	P	Pb	Sb	Se
LB1	05/24/06	MSED1	<0.23	49.66	6.84	9.44	13.26	<0.05	0.30
LB1	05/24/06	MSED2	<0.22	49.02	5.48	7.78	11.78	<0.04	<0.22
LB2A	05/24/06	MSED1	<0.22	56.99	2.65	17.88	5.53	0.12	<0.22
LB2A	05/24/06	MSED2	<0.23	98.51	2.82	4.53	4.57	0.11	<0.23
LB2	05/24/06	MSED1	<0.23	86.79	3.45	1.70	4.28	0.10	<0.23
LB2	05/24/06	MSED2	<0.22	89.71	4.36	2.56	3.31	0.09	<0.22
LB3	05/24/06	MSED1	<0.24	72.75	3.81	13.69	5.25	0.15	<0.24
LB3	05/24/06	MSED2	<0.22	38.79	3.52	15.24	9.25	0.14	<0.22
LB4	05/24/06	MSED1	<0.22	58.31	1.47	13.52	3.37	0.10	<0.22
LB4	05/24/06	MSED2	<0.24	36.96	1.40	91.81	3.36	0.51	<0.24
001	05/23/06	MSED1	<0.21	97.01	7.08	75.92	0.32	0.08	<0.21
001	05/23/06	MSED2	<0.23	124.11	7.07	75.00	1.85	0.11	<0.23
006	05/23/06	MSED1	<0.23	60.79	4.18	38.19	4.93	0.06	<0.23
006	05/23/06	MSED2	<0.25	60.55	1.70	7.65	2.76	0.09	<0.25
008	05/23/06	MSED1	<0.23	64.06	7.99	36.02	7.61	0.25	<0.23
008	05/23/06	MSED2	<0.23	49.13	8.61	62.95	7.08	0.58	<0.23
010+011	05/24/06	MSED1	<0.23	60.56	3.28	20.27	5.65	0.09	<0.23
010+011	05/24/06	MSED2	<0.25	65.17	3.21	10.60	4.01	0.15	<0.25

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<sup>1</sup> MSED1 and MSED2 are separate samples.

Table A4, continued. Metal concentrations in sediments from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Sediment Metal Conc. (µg/g)						
			Si	Sn	Sr	Ti	Tl	V	Zn
LB1	05/24/06	MSED1	22.04	<0.23	12.01	6.51	0.64	0.60	51.38
LB1	05/24/06	MSED2	20.31	<0.22	14.73	6.64	0.53	0.47	45.00
LB2A	05/24/06	MSED1	21.72	<0.22	12.17	6.13	<0.22	2.18	16.32
LB2A	05/24/06	MSED2	25.74	<0.23	14.33	5.15	<0.23	0.45	17.23
LB2	05/24/06	MSED1	22.96	<0.23	15.00	2.38	<0.23	0.10	10.18
LB2	05/24/06	MSED2	23.33	<0.22	15.09	3.40	<0.22	0.22	9.37
LB3	05/24/06	MSED1	29.97	<0.24	10.58	12.56	<0.24	0.81	38.68
LB3	05/24/06	MSED2	20.88	<0.22	14.48	6.21	0.34	1.11	30.69
LB4	05/24/06	MSED1	47.92	<0.22	9.81	11.11	<0.22	0.88	7.77
LB4	05/24/06	MSED2	17.49	<0.24	1.17	9.79	<0.24	5.06	16.14
001	05/23/06	MSED1	19.85	<0.21	8.43	10.99	<0.21	1.61	33.08
001	05/23/06	MSED2	15.10	<0.23	10.08	19.75	<0.23	2.31	37.83
006	05/23/06	MSED1	31.27	<0.23	9.03	12.30	0.34	1.43	15.74
006	05/23/06	MSED2	41.23	<0.25	4.65	6.19	<0.25	0.64	6.63
008	05/23/06	MSED1	18.50	<0.23	16.62	4.55	0.31	2.45	45.25
008	05/23/06	MSED2	14.18	<0.23	5.11	2.53	<0.23	4.94	28.43
010+011	05/24/06	MSED1	24.94	<0.23	9.23	5.83	<0.23	0.97	31.32
010+011	05/24/06	MSED2	32.61	<0.25	9.10	7.11	<0.25	0.71	31.83

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<sup>1</sup> MSED1 and MSED2 are separate samples.



Table A5. Metal concentrations in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)							
			Ag	Al	As	B	Ba	Be	Ca	Cd
MC	05/25/06	MFP1	<0.04	2920.6	1.01	14.88	23.47	0.11	713.15	0.33
MC	05/25/06	MFP2	<0.05	6008.6	3.26	16.62	66.07	0.31	1119.8	0.87
BB1A	05/23/06	MFP1	<0.05	3260.4	2.55	18.98	32.53	0.21	762.48	0.57
BB1A	05/23/06	MFP2	<0.05	4239.1	1.56	16.55	49.15	0.19	1588.0	0.51
BB1	05/23/06	MFP1	<0.04	2576.7	1.67	17.81	35.23	0.16	11280.8	0.61
BB1	05/23/06	MFP2	<0.05	1966.9	0.99	19.53	55.57	0.08	7527.8	0.44
BB2A	05/23/06	MFP1	<0.04	4407.9	1.75	14.46	39.83	0.22	966.34	0.59
BB2A	05/23/06	MFP2	<0.05	5021.2	2.81	15.49	46.89	0.32	1313.7	0.87
BB2	05/23/06	MFP1	<0.05	4289.6	1.87	14.46	46.70	0.22	968.53	0.58
BB2	05/23/06	MFP2	<0.04	4799.5	1.98	14.87	52.56	0.22	2560.3	0.63
48 BB3	05/23/06	MFP1	<0.05	2806.7	1.88	16.67	34.12	0.18	894.44	0.52
BB3	05/23/06	MFP2	<0.04	3899.8	2.19	15.85	35.51	0.23	1670.6	0.64
BB4	05/23/06	MFP1	<0.05	3707.7	1.80	15.91	24.85	0.20	1773.8	0.56
BB4	05/23/06	MFP2	<0.04	4361.9	1.59	14.85	35.82	0.18	12373.4	0.54
BB5	05/23/06	MFP1	<0.05	4270.2	2.23	14.77	38.51	0.24	1118.5	0.67
BB5	05/23/06	MFP2	<0.05	4086.3	1.82	16.41	43.42	0.21	2839.5	0.64
BB6	05/23/06	MFP1	<0.04	5235.5	2.67	14.35	43.72	0.24	1218.9	0.79
BB6	05/23/06	MFP2	<0.04	2814.2	2.05	14.29	24.52	0.20	1130.6	0.56
BB7	05/25/06	MFP1	<0.04	2647.7	1.44	14.51	32.50	0.16	655.50	0.48
BB7	05/25/06	MFP2	<0.04	3471.3	1.29	14.69	28.65	0.17	796.74	0.51
BB8	05/25/06	MFP1	<0.04	2173.0	0.92	15.72	21.81	0.09	694.41	0.26
BB8	05/25/06	MFP2	<0.05	3825.4	1.67	15.10	33.38	0.19	1154.3	0.56
BB9	05/25/06	MFP1	<0.05	3315.4	0.92	15.08	27.94	0.16	10649.0	0.46
BB9	05/25/06	MFP2	<0.04	2289.7	0.78	15.33	22.98	0.13	640.05	0.31

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A5, continued. Metal concentrations in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)							
			Co	Cr	Cu	Fe	K	Li	Mg	Mn
MC	05/25/06	MFP1	2.44	3.51	2.57	4142.9	45.48	3.06	371.08	227.37
MC	05/25/06	MFP2	7.81	8.71	5.76	11577.9	63.63	6.85	763.64	767.99
BB1A	05/23/06	MFP1	4.60	7.33	3.19	7533.3	50.77	3.30	393.33	431.73
BB1A	05/23/06	MFP2	3.81	5.62	4.33	6475.5	63.58	4.72	612.00	456.29
BB1	05/23/06	MFP1	2.51	10.06	3.76	7577.2	45.31	2.75	471.74	240.43
BB1	05/23/06	MFP2	1.39	5.25	6.49	3575.5	49.38	1.54	518.90	385.88
BB2A	05/23/06	MFP1	4.42	7.25	3.87	7738.6	42.31	4.94	514.53	427.10
BB2A	05/23/06	MFP2	5.87	10.44	4.26	11726.0	54.50	5.87	655.88	455.56
BB2	05/23/06	MFP1	4.33	7.18	4.20	7735.5	40.65	5.13	576.28	495.08
BB2	05/23/06	MFP2	4.29	6.99	5.33	7839.5	64.83	6.84	805.89	440.50
49 BB3	05/23/06	MFP1	3.29	7.28	2.11	6958.9	36.10	2.38	293.04	253.44
BB3	05/23/06	MFP2	3.59	12.55	4.44	8271.9	56.38	4.72	521.60	319.90
BB4	05/23/06	MFP1	3.68	8.79	3.43	7498.4	40.73	4.08	442.75	319.13
BB4	05/23/06	MFP2	3.25	6.64	4.41	6754.3	54.26	6.44	900.03	306.66
BB5	05/23/06	MFP1	4.27	9.09	4.30	8677.0	51.71	4.97	540.51	407.85
BB5	05/23/06	MFP2	3.89	8.01	4.70	7591.6	52.08	4.80	545.95	426.50
BB6	05/23/06	MFP1	4.45	12.42	7.83	10251.0	50.76	6.22	614.10	318.72
BB6	05/23/06	MFP2	3.79	8.10	2.96	7115.5	33.07	2.28	303.17	345.41
BB7	05/25/06	MFP1	2.95	6.85	2.17	6117.6	37.90	2.30	278.26	305.66
BB7	05/25/06	MFP2	3.40	6.52	3.26	6341.3	40.83	3.67	408.53	460.32
BB8	05/25/06	MFP1	1.65	4.27	1.82	3461.0	34.08	1.54	219.82	157.01
BB8	05/25/06	MFP2	3.64	9.51	4.48	6824.6	57.03	4.35	499.95	335.74
BB9	05/25/06	MFP1	2.76	7.21	3.46	5631.6	45.71	5.42	657.56	237.69
BB9	05/25/06	MFP2	2.05	6.18	2.44	3799.6	33.13	2.42	277.49	133.29

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A5, continued. Metal concentrations in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)						
			Mo	Na	Ni	P	Pb	Sb	Se
MC	05/25/06	MFP1	<0.22	43.50	2.92	125.29	3.54	0.12	<0.22
MC	05/25/06	MFP2	0.27	39.52	6.59	316.63	10.07	0.35	<0.23
BB1A	05/23/06	MFP1	<0.25	35.59	3.53	218.49	7.41	0.21	<0.25
BB1A	05/23/06	MFP2	<0.23	34.96	4.31	289.05	6.47	0.23	<0.23
BB1	05/23/06	MFP1	<0.22	41.80	3.21	334.92	4.45	0.30	<0.22
BB1	05/23/06	MFP2	<0.23	34.39	2.30	406.10	3.49	0.13	<0.23
BB2A	05/23/06	MFP1	<0.22	32.13	4.29	199.07	7.22	0.38	<0.22
BB2A	05/23/06	MFP2	<0.24	34.07	4.81	235.23	8.43	0.27	<0.24
BB2	05/23/06	MFP1	<0.23	37.21	4.58	208.81	7.35	0.30	<0.23
BB2	05/23/06	MFP2	0.23	36.89	5.29	319.11	6.91	0.16	<0.21
50 BB3	05/23/06	MFP1	<0.23	43.48	2.55	161.53	5.42	0.26	<0.23
BB3	05/23/06	MFP2	0.25	32.84	4.20	309.84	6.91	0.35	<0.22
BB4	05/23/06	MFP1	<0.23	32.25	3.83	214.37	6.18	0.19	<0.23
BB4	05/23/06	MFP2	<0.22	45.69	4.36	352.68	5.94	0.19	<0.22
BB5	05/23/06	MFP1	<0.23	32.30	4.71	199.34	7.60	0.27	<0.23
BB5	05/23/06	MFP2	<0.23	35.00	3.96	273.93	6.81	0.18	<0.23
BB6	05/23/06	MFP1	0.26	35.59	5.94	204.67	10.14	0.46	<0.22
BB6	05/23/06	MFP2	<0.22	38.41	2.94	199.62	6.00	0.32	<0.22
BB7	05/25/06	MFP1	<0.22	37.99	2.57	148.88	5.39	0.14	<0.22
BB7	05/25/06	MFP2	<0.22	42.08	3.47	176.32	6.74	0.20	<0.22
BB8	05/25/06	MFP1	<0.22	39.13	1.89	109.97	2.97	0.14	<0.22
BB8	05/25/06	MFP2	<0.23	44.09	4.18	285.60	6.31	0.19	<0.23
BB9	05/25/06	MFP1	<0.25	47.60	3.89	218.32	4.31	0.18	<0.25
BB9	05/25/06	MFP2	<0.22	40.14	2.73	152.40	3.22	0.06	<0.22

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A5, continued. Metal concentrations in floodplain soils from Massac Creek (MC) and Big Bayou Creek (BB) collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)						
			Si	Sn	Sr	Ti	Tl	V	Zn
MC	05/25/06	MFP1	16.04	<0.22	4.12	21.71	0.23	7.27	10.02
MC	05/25/06	MFP2	36.19	<0.23	9.00	64.51	0.45	19.21	19.00
BB1A	05/23/06	MFP1	21.17	<0.25	4.88	56.46	0.26	15.32	12.57
BB1A	05/23/06	MFP2	23.02	<0.23	12.10	40.07	0.27	12.06	16.34
BB1	05/23/06	MFP1	28.18	0.23	11.90	29.10	<0.22	9.61	17.59
BB1	05/23/06	MFP2	37.59	<0.23	24.17	25.73	0.42	5.28	23.75
BB2A	05/23/06	MFP1	34.09	<0.22	7.16	52.56	0.21	14.86	16.30
BB2A	05/23/06	MFP2	28.17	<0.24	11.42	42.07	0.22	18.86	17.13
BB2	05/23/06	MFP1	26.45	<0.23	8.10	48.43	0.32	14.04	16.15
BB2	05/23/06	MFP2	28.02	<0.21	10.52	42.10	0.24	13.64	20.94
51 BB3	05/23/06	MFP1	31.19	0.36	4.34	46.15	<0.23	13.51	9.82
BB3	05/23/06	MFP2	28.70	<0.22	8.32	35.97	0.26	14.76	16.56
BB4	05/23/06	MFP1	26.08	<0.23	9.69	45.02	<0.23	14.11	13.66
BB4	05/23/06	MFP2	24.51	<0.22	45.37	37.35	0.30	11.68	20.79
BB5	05/23/06	MFP1	29.22	<0.23	7.09	47.26	<0.23	15.30	17.09
BB5	05/23/06	MFP2	38.45	<0.23	14.83	44.30	0.39	14.08	21.23
BB6	05/23/06	MFP1	18.45	<0.22	8.27	48.85	0.24	17.15	20.83
BB6	05/23/06	MFP2	43.29	<0.22	6.30	39.51	0.35	13.71	11.66
BB7	05/25/06	MFP1	38.85	0.23	3.74	41.63	0.25	11.79	9.95
BB7	05/25/06	MFP2	26.86	0.23	5.26	36.29	0.38	11.79	12.98
BB8	05/25/06	MFP1	12.50	<0.22	3.18	19.07	<0.22	6.34	9.01
BB8	05/25/06	MFP2	32.27	<0.23	7.07	38.35	0.29	12.81	18.02
BB9	05/25/06	MFP1	25.36	<0.25	12.98	46.11	<0.25	9.22	14.98
BB9	05/25/06	MFP2	20.32	<0.22	3.26	32.76	<0.22	6.83	11.16

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A6. Metal concentrations in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)							
			Ag	Al	As	B	Ba	Be	Ca	Cd
LB1	05/24/06	MFP1	<0.04	5253.1	3.72	14.03	68.17	0.32	13922.8	0.89
LB1	05/24/06	MFP2	<0.05	5305.8	3.07	16.22	84.94	0.29	4509.3	0.85
LB2A	05/24/06	MFP1	<0.05	6621.9	6.20	14.49	72.75	0.52	1151.8	1.31
LB2A	05/24/06	MFP2	<0.05	4607.4	0.98	14.28	54.92	0.23	1575.2	0.59
LB2	05/24/06	MFP1	<0.04	5076.4	1.26	14.10	49.60	0.19	1663.1	0.49
LB2	05/24/06	MFP2	<0.05	4903.1	1.46	15.52	43.13	0.20	1854.6	0.56
LB3	05/24/06	MFP1	<0.05	3827.6	1.72	13.46	36.95	0.22	1138.6	0.55
LB3	05/24/06	MFP2	<0.04	4245.0	1.19	14.57	43.45	0.17	18140.0	0.50
LB4	05/24/06	MFP1	0.05	3382.6	0.95	16.50	31.39	0.18	1265.3	0.43
52 LB4	05/24/06	MFP2	<0.05	3381.6	1.11	15.74	39.46	0.18	1582.7	0.44
001	05/23/06	MFP1	<0.05	6499.2	4.58	14.58	91.17	0.40	1614.5	1.13
001	05/23/06	MFP2	<0.05	3958.9	1.48	14.68	68.17	0.19	2402.0	0.59
006	05/23/06	MFP1	<0.05	4455.2	1.88	14.31	45.66	0.23	2212.8	0.66
006	05/23/06	MFP2	<0.05	4242.0	2.57	15.80	39.05	0.25	1345.5	0.71
008	05/23/06	MFP1	<0.05	5293.0	1.21	15.56	23.48	0.31	1773.8	1.05
008	05/23/06	MFP2	<0.05	4165.2	2.13	14.42	64.78	0.28	16760.2	0.59
010+011	05/24/06	MFP1	<0.04	3410.7	1.06	16.35	42.85	0.14	1329.8	0.37
010+011	05/24/06	MFP2	<0.05	2177.6	0.28	16.41	36.52	0.08	1907.4	0.30

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A6, continued. Metal concentrations in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)							
			Co	Cr	Cu	Fe	K	Li	Mg	Mn
LB1	05/24/06	MFP1	5.37	8.00	6.26	10921.3	75.34	8.25	1186.5	735.88
LB1	05/24/06	MFP2	6.06	9.41	6.51	9771.9	75.24	7.28	1041.0	886.32
LB2A	05/24/06	MFP1	8.87	26.29	7.09	17272.6	50.73	7.50	810.08	947.50
LB2A	05/24/06	MFP2	4.09	14.96	4.44	7481.5	47.41	4.82	559.40	247.49
LB2	05/24/06	MFP1	3.12	10.87	4.75	6181.6	47.71	6.13	678.58	421.23
LB2	05/24/06	MFP2	3.61	22.02	5.26	7046.2	40.82	6.04	694.54	394.15
LB3	05/24/06	MFP1	3.71	18.34	4.39	6991.2	38.71	3.82	421.72	241.84
LB3	05/24/06	MFP2	2.76	14.55	4.70	5788.1	61.39	5.80	991.40	276.68
LB4	05/24/06	MFP1	2.56	36.30	6.27	5035.5	39.42	3.59	389.84	260.38
53 LB4	05/24/06	MFP2	2.50	30.49	5.68	4816.5	37.68	3.52	416.30	440.32
001	05/23/06	MFP1	8.94	11.76	7.60	14595.5	56.70	8.68	1090.6	907.48
001	05/23/06	MFP2	3.83	7.58	5.22	6666.8	76.25	5.75	1020.2	374.84
006	05/23/06	MFP1	4.10	9.64	4.98	8211.8	51.31	5.39	613.43	422.79
006	05/23/06	MFP2	4.97	8.51	4.03	8987.1	43.24	4.59	523.99	466.41
008	05/23/06	MFP1	3.55	23.54	9.19	12887.7	49.79	5.34	560.33	113.67
008	05/23/06	MFP2	2.54	7.92	8.60	6092.0	63.25	8.23	1604.4	287.08
010+011	05/24/06	MFP1	2.05	7.92	3.81	4242.7	43.49	3.98	521.12	389.56
010+011	05/24/06	MFP2	1.25	9.49	4.14	2733.4	31.73	2.26	398.62	153.54

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A6, continued. Metal concentrations in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)						
			Mo	Na	Ni	P	Pb	Sb	Se
LB1	05/24/06	MFP1	0.23	52.86	6.32	392.46	9.63	0.40	<0.22
LB1	05/24/06	MFP2	<0.23	42.28	7.37	408.01	8.36	0.38	0.24
LB2A	05/24/06	MFP1	0.28	49.76	6.20	378.26	12.80	0.91	<0.24
LB2A	05/24/06	MFP2	<0.23	36.37	4.42	165.28	6.20	0.35	<0.23
LB2	05/24/06	MFP1	<0.21	36.62	5.18	312.68	6.93	0.28	<0.21
LB2	05/24/06	MFP2	<0.23	39.06	5.78	297.98	7.12	0.44	<0.23
LB3	05/24/06	MFP1	<0.23	44.70	3.74	172.61	6.46	0.33	<0.23
LB3	05/24/06	MFP2	<0.22	56.49	3.68	334.13	5.08	0.25	<0.22
LB4	05/24/06	MFP1	<0.24	34.97	3.64	165.50	5.67	0.40	<0.24
54 LB4	05/24/06	MFP2	<0.25	48.26	4.14	201.26	5.66	0.39	<0.25
001	05/23/06	MFP1	0.39	88.95	8.87	299.06	11.81	0.53	<0.24
001	05/23/06	MFP2	<0.24	41.38	7.47	485.95	5.79	0.22	<0.24
006	05/23/06	MFP1	<0.23	36.22	4.73	221.81	7.40	0.30	<0.23
006	05/23/06	MFP2	<0.24	47.20	4.47	227.97	8.21	0.40	<0.24
008	05/23/06	MFP1	<0.24	44.77	7.69	180.96	8.74	0.54	<0.24
008	05/23/06	MFP2	0.25	49.67	9.26	226.01	8.13	0.11	<0.23
010+011	05/24/06	MFP1	<0.22	38.10	3.64	168.69	4.31	0.20	<0.22
010+011	05/24/06	MFP2	<0.23	34.37	2.84	129.96	2.25	0.17	<0.23

<sup>1</sup> MFP1 and MFP2 are separate samples.

Table A6, continued. Metal concentrations in floodplain soils from Little Bayou Creek (LB) and effluents collected May 23-25, 2006.

Station	Date	Sample <sup>1</sup>	Floodplain Soil Metal Conc. (µg/g)						
			Si	Sn	Sr	Ti	Tl	V	Zn
LB1	05/24/06	MFP1	27.42	<0.22	20.35	50.10	0.43	19.47	39.01
LB1	05/24/06	MFP2	27.42	<0.23	12.28	46.29	0.69	19.08	57.16
LB2A	05/24/06	MFP1	19.88	0.27	14.02	36.71	0.61	26.06	33.21
LB2A	05/24/06	MFP2	29.80	<0.23	15.25	27.56	<0.23	14.11	29.03
LB2	05/24/06	MFP1	32.74	<0.21	10.66	32.13	0.26	11.73	26.76
LB2	05/24/06	MFP2	22.67	<0.23	8.95	33.88	0.32	12.88	32.11
LB3	05/24/06	MFP1	26.54	<0.23	14.01	27.24	<0.23	13.61	23.48
LB3	05/24/06	MFP2	27.99	<0.22	37.28	28.79	0.23	10.70	32.16
LB4	05/24/06	MFP1	29.71	<0.24	8.49	31.18	<0.24	10.46	31.73
55 LB4	05/24/06	MFP2	49.28	<0.25	11.69	31.95	0.32	9.68	26.97
001	05/23/06	MFP1	21.77	<0.24	12.35	57.66	0.56	28.12	22.42
001	05/23/06	MFP2	30.10	<0.24	12.78	53.36	0.25	12.80	22.01
006	05/23/06	MFP1	41.00	<0.23	12.49	41.86	0.25	14.81	17.35
006	05/23/06	MFP2	27.19	<0.24	7.84	43.61	0.30	16.16	15.68
008	05/23/06	MFP1	23.44	<0.24	13.25	25.26	<0.24	28.86	25.63
008	05/23/06	MFP2	18.63	<0.23	33.59	37.71	0.26	9.88	33.95
010+011	05/24/06	MFP1	50.70	<0.22	11.32	34.81	0.30	8.26	22.56
010+011	05/24/06	MFP2	30.56	<0.23	11.08	14.94	<0.23	4.58	32.83

<sup>1</sup> MFP1 and MFP2 are separate samples.



Figure 1. Silver mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

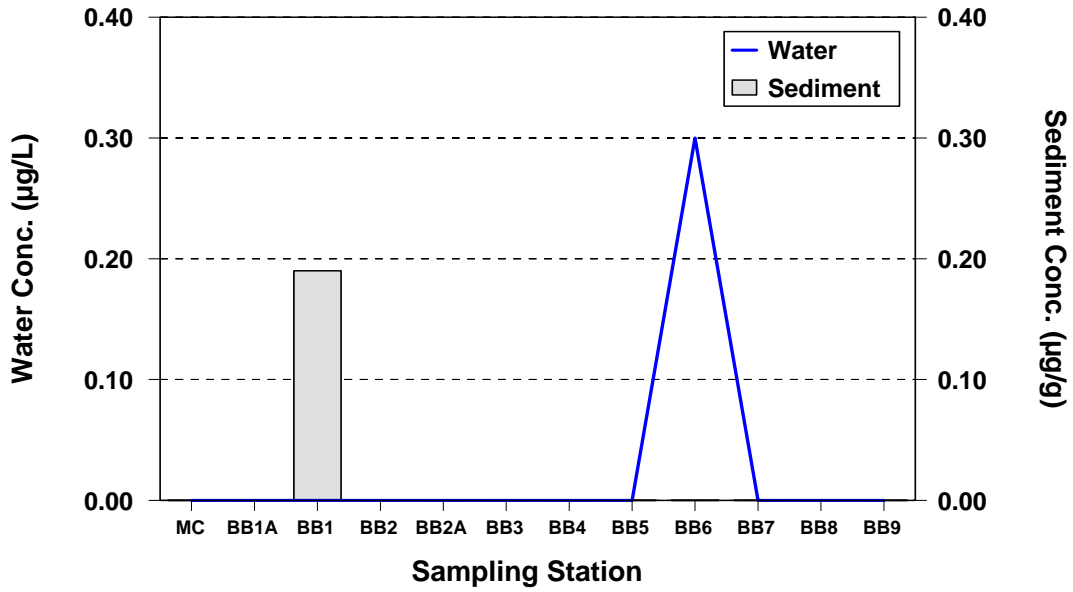


Figure 2. Silver mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

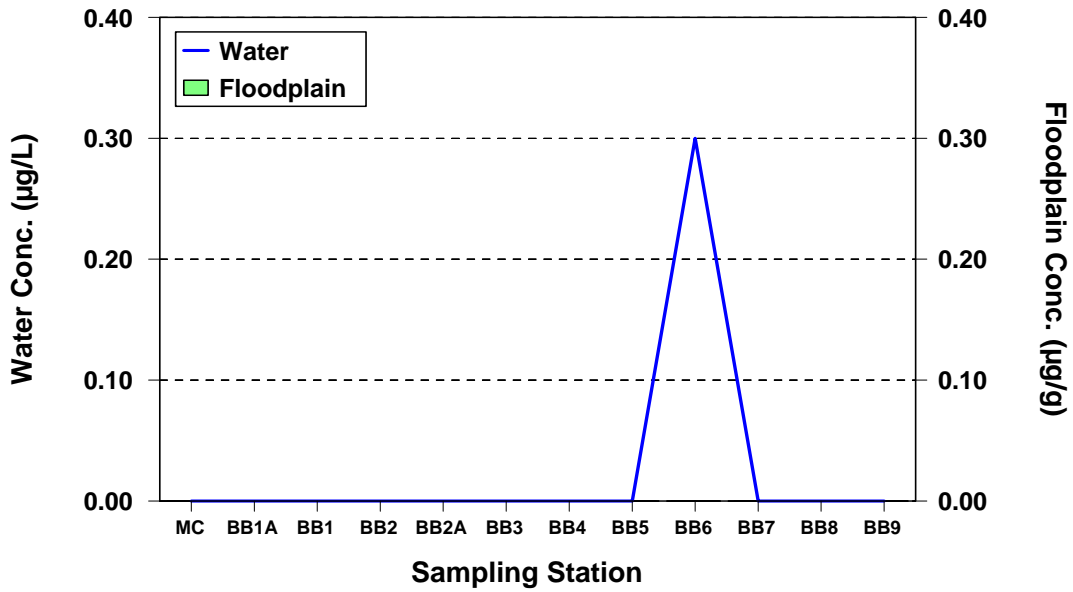


Figure 3. Chromium mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

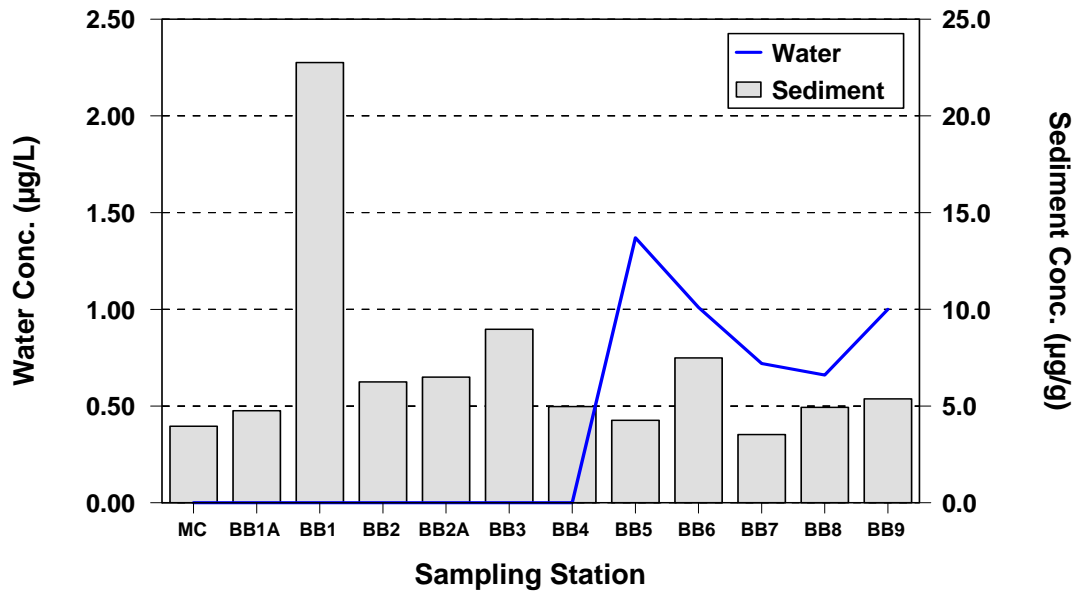


Figure 4. Chromium mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

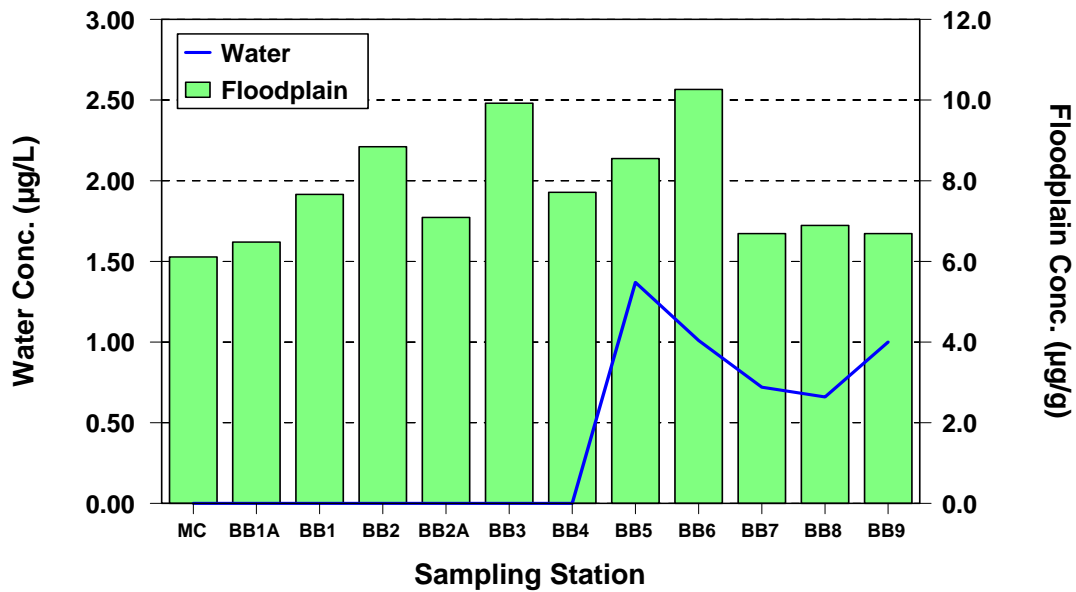


Figure 5. Copper mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

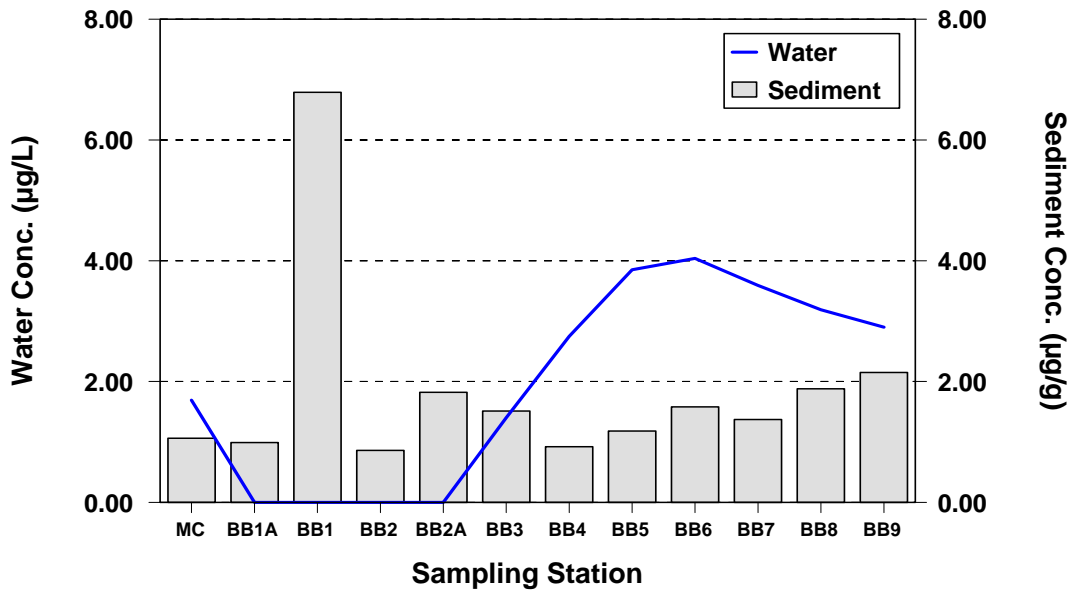


Figure 6. Copper mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

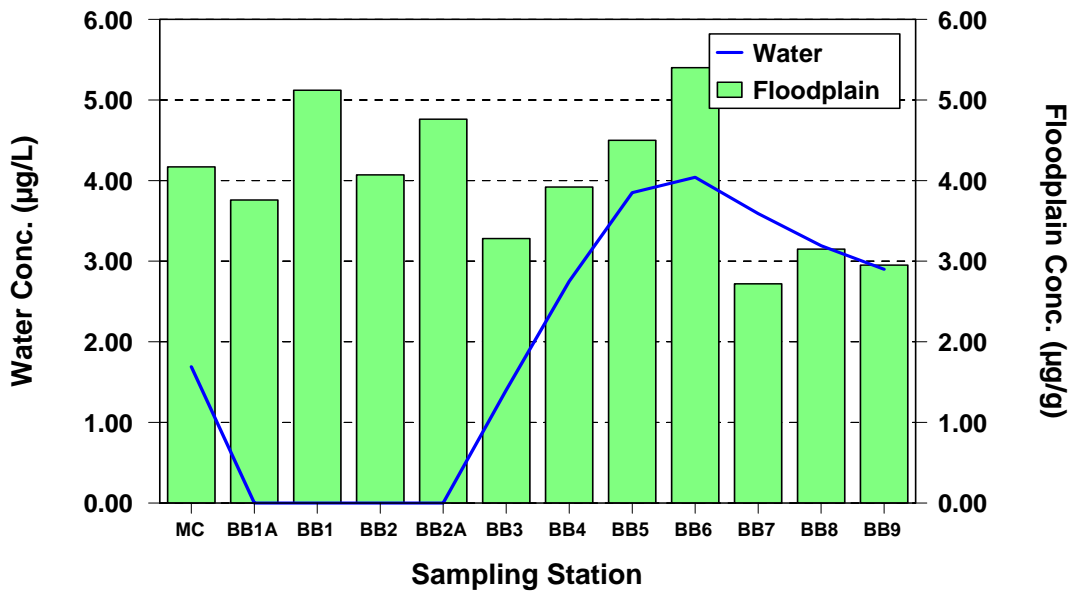


Figure 7. Iron mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

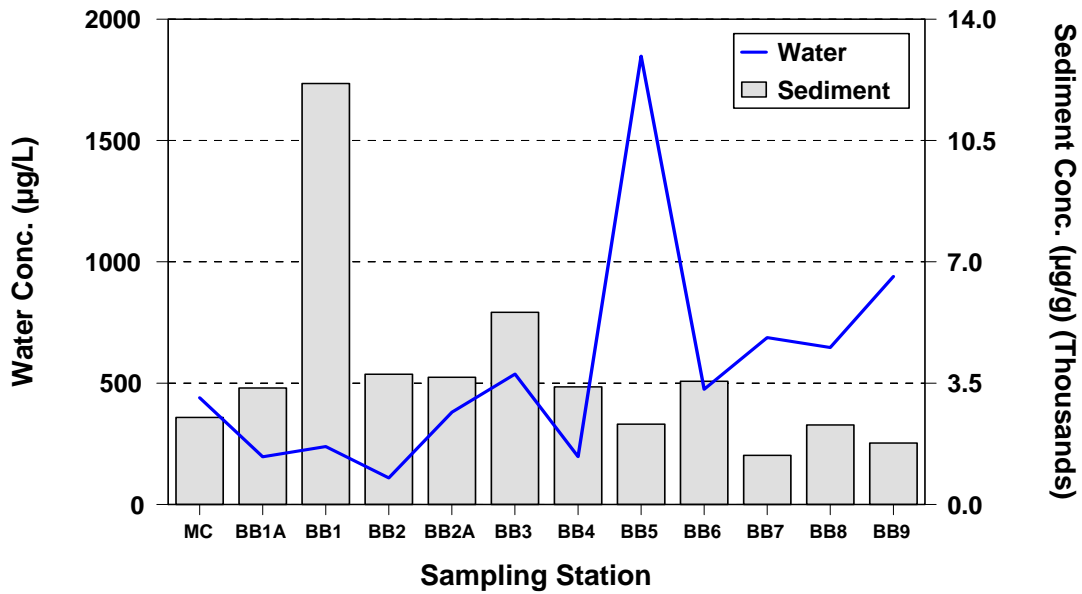


Figure 8. Iron mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

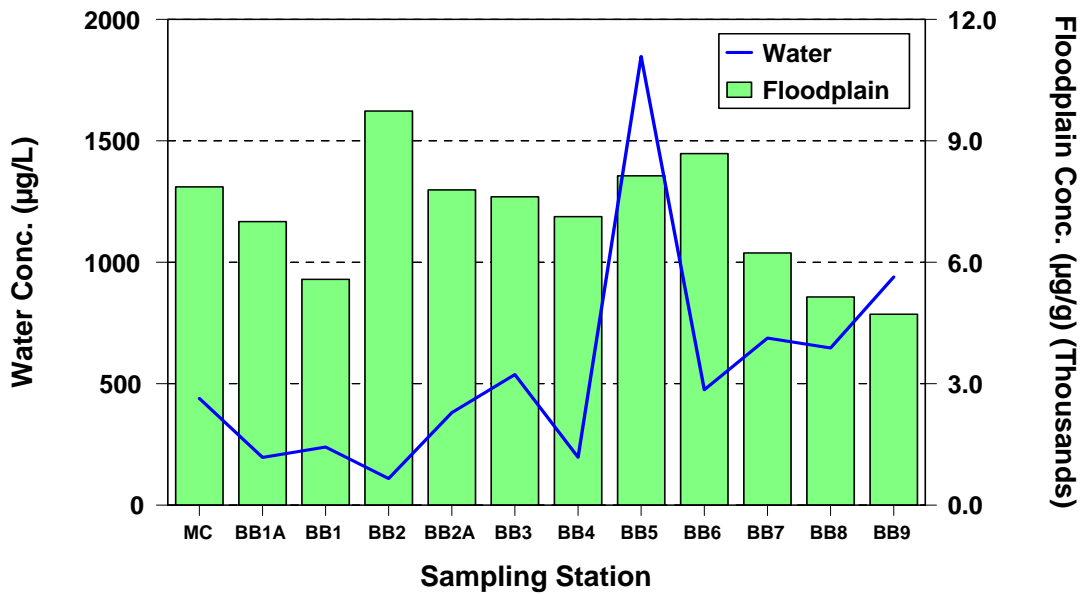


Figure 9. Lead mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

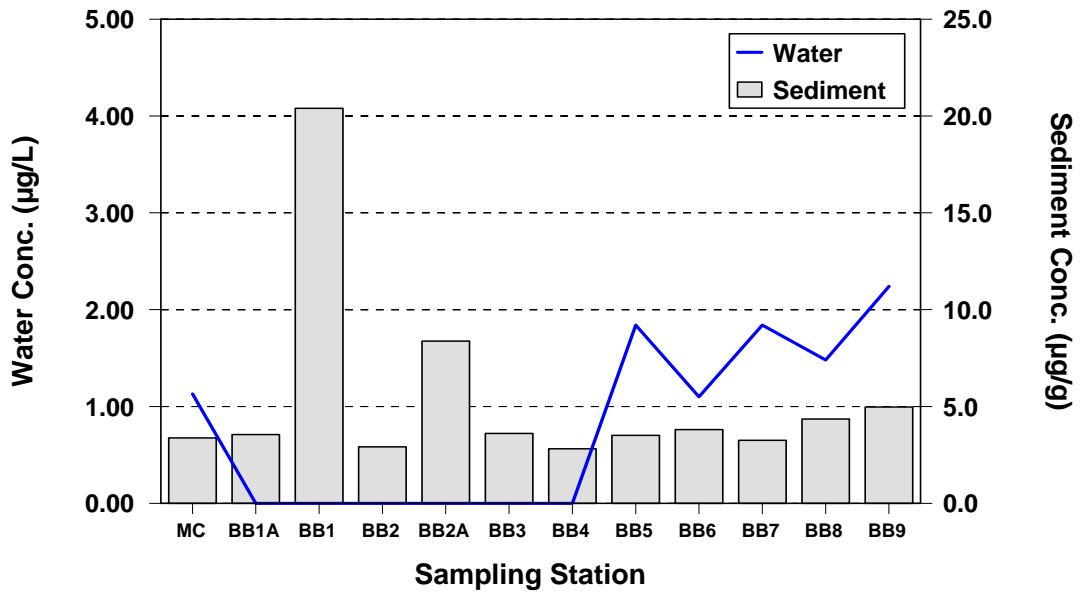


Figure 10. Lead mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

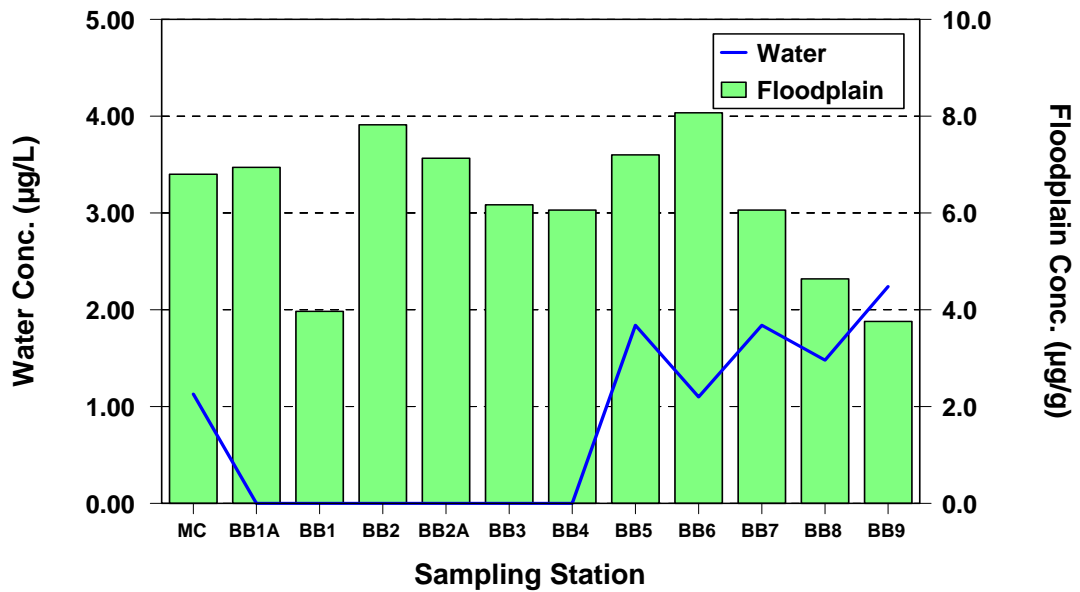


Figure 11. Molybdenum mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

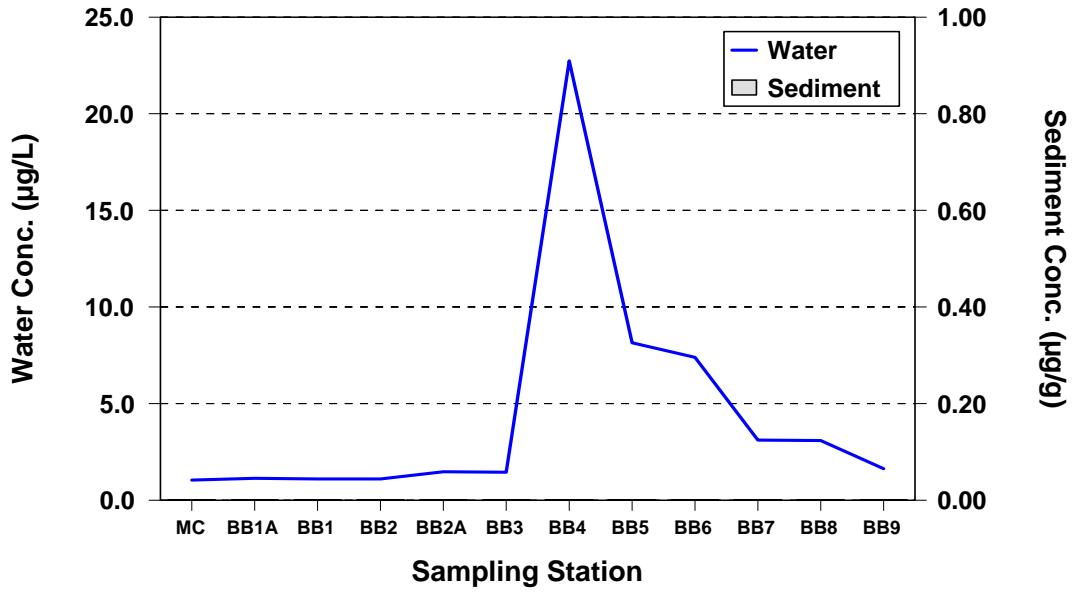


Figure 12. Molybdenum mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

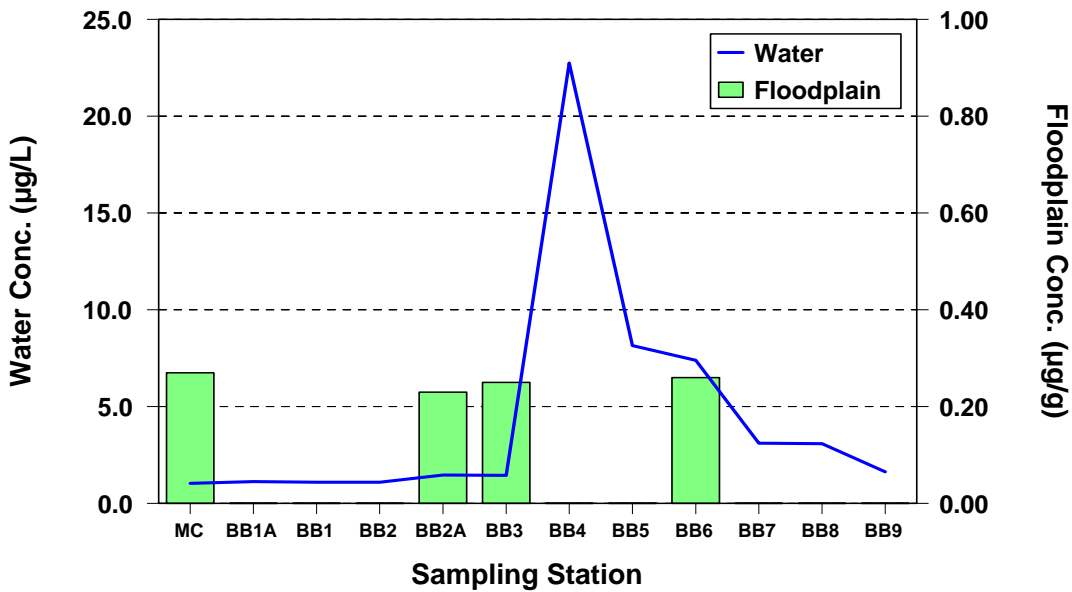


Figure 13. Nickel mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

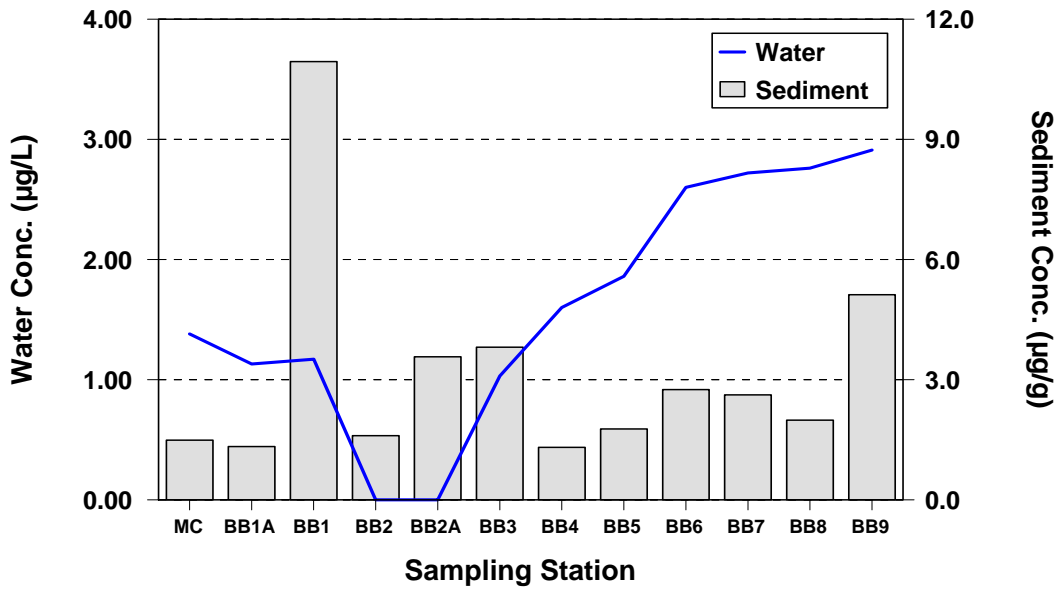


Figure 14. Nickel mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

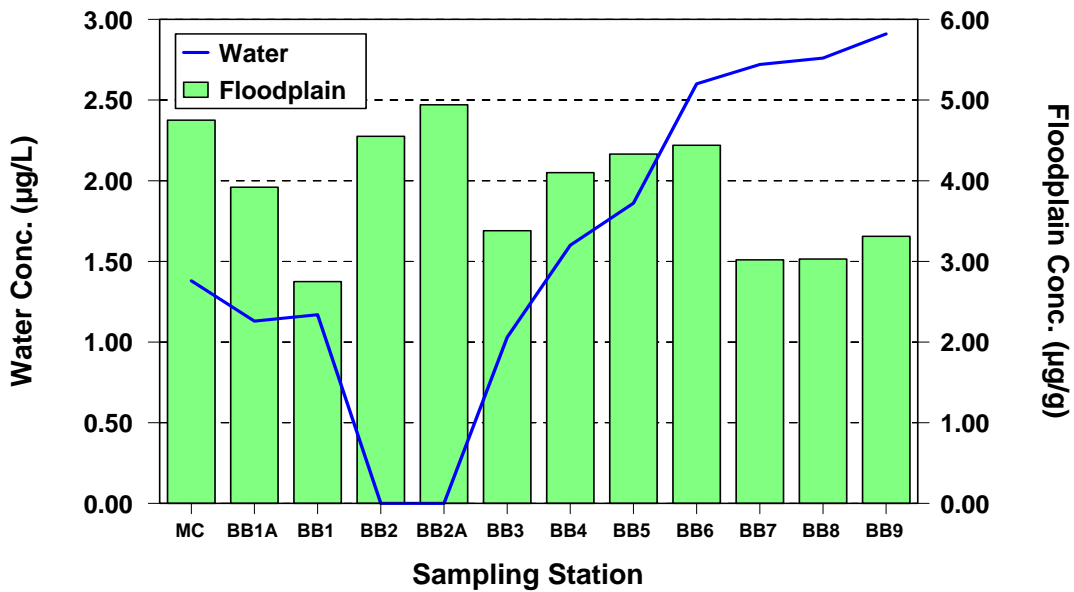


Figure 15. Zinc mean metal concentrations in water and sediments from Big Bayou Creek collected May 23-25, 2006.

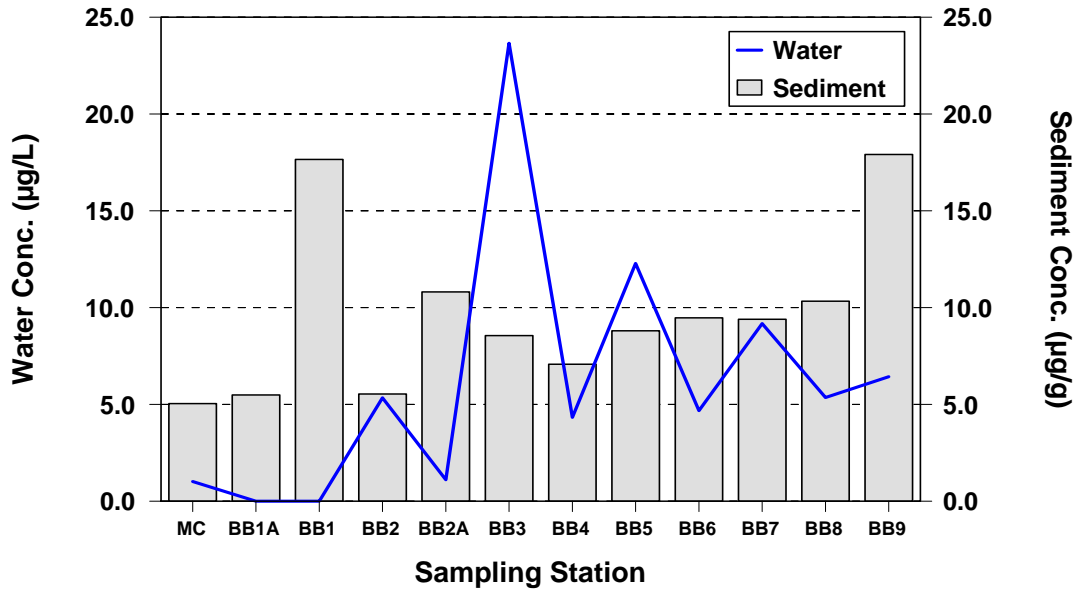


Figure 16. Zinc mean metal concentrations in water and floodplain soils from Big Bayou Creek collected May 23-25, 2006.

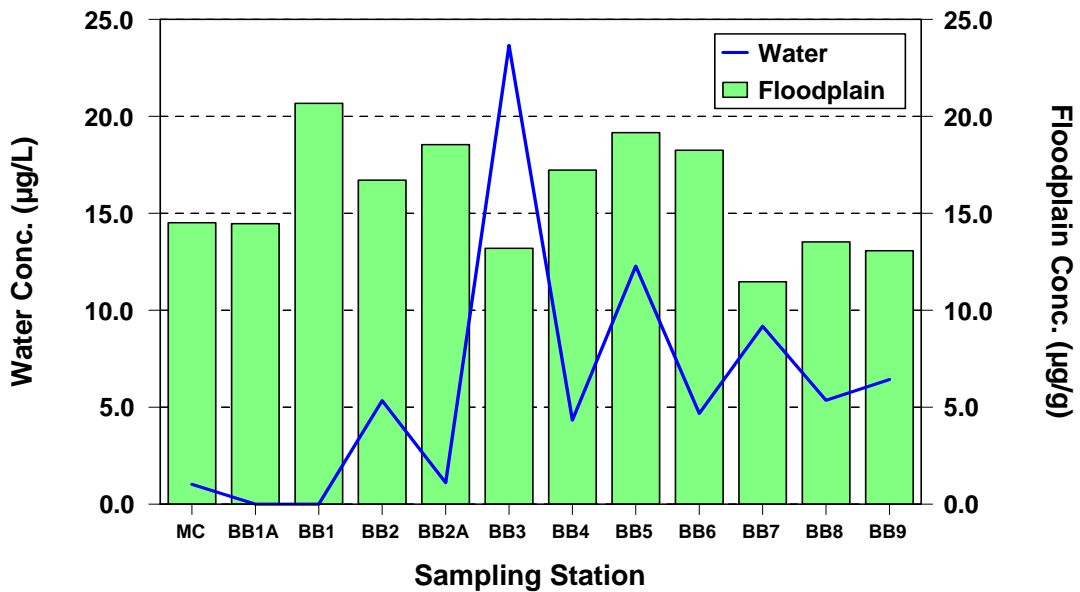




Figure 17. Chromium mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

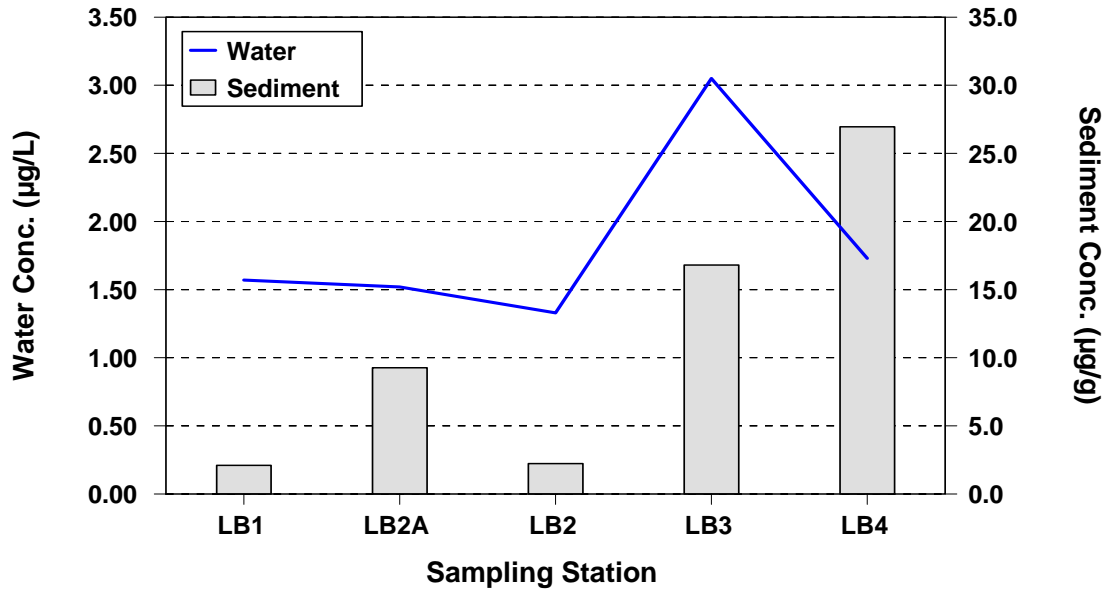


Figure 18. Chromium mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.

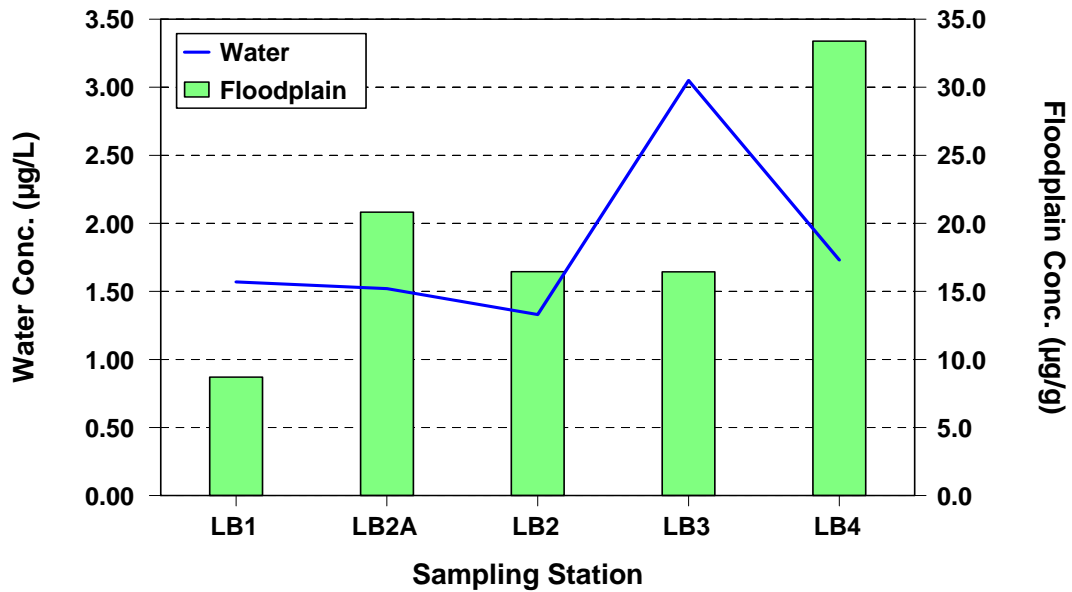


Figure 19. Copper mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

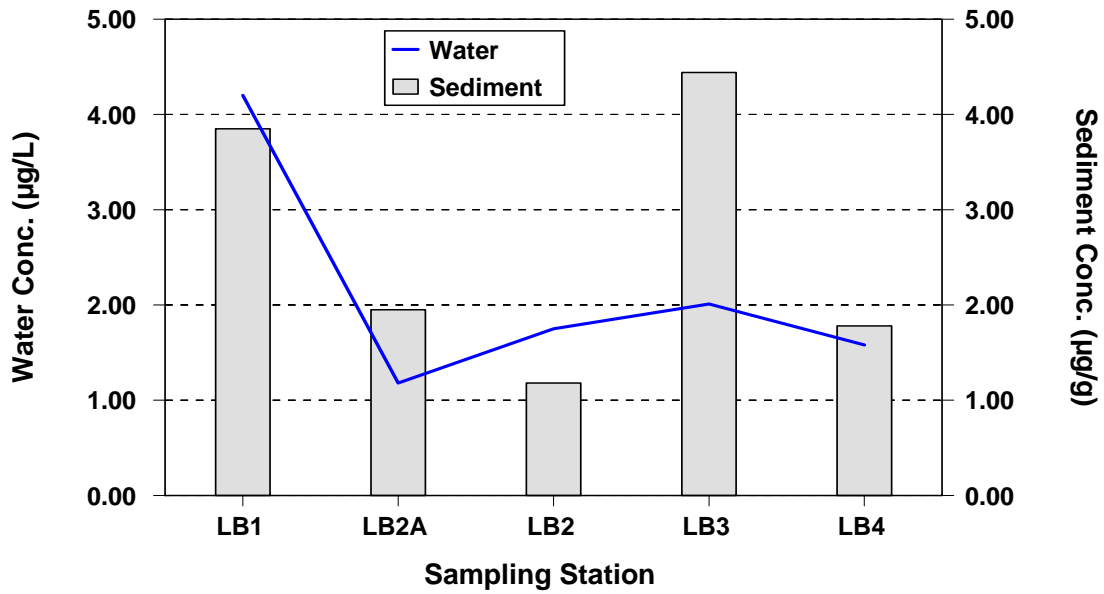


Figure 20. Copper mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.

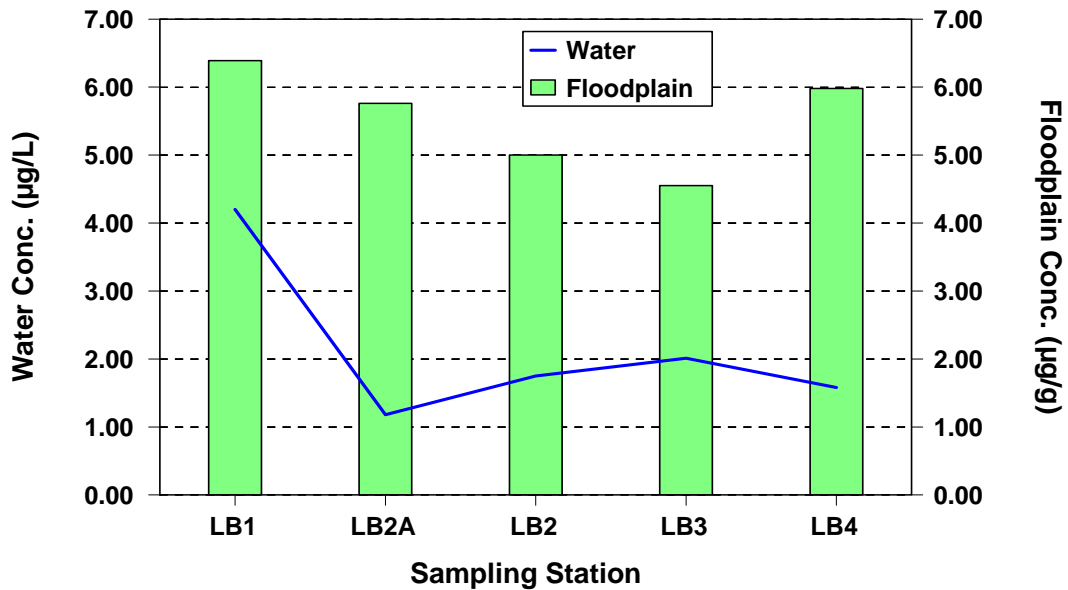


Figure 21. Iron mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

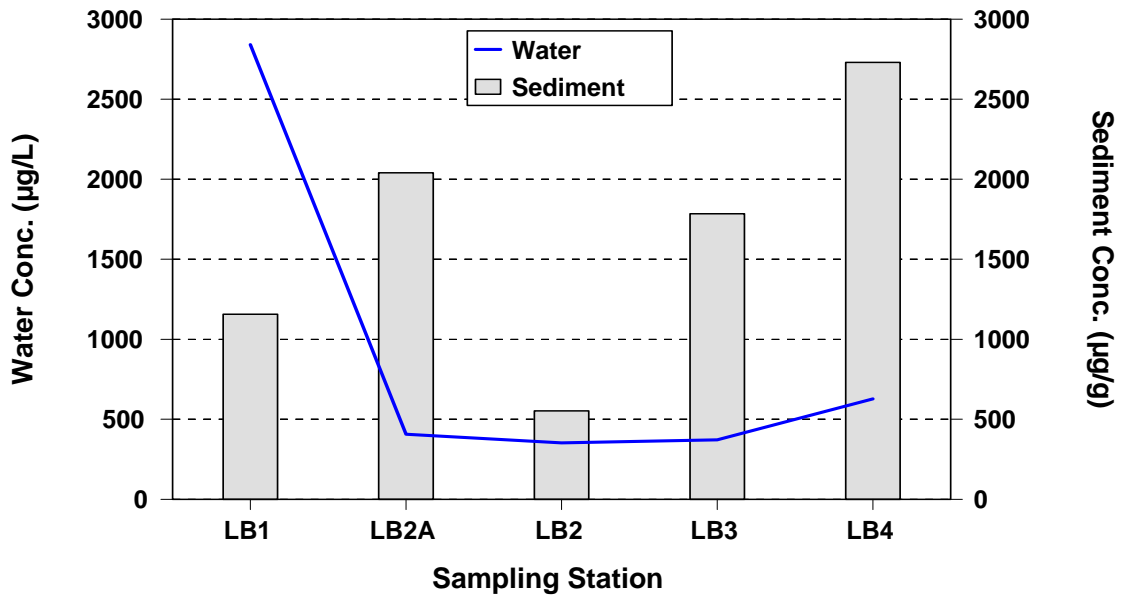


Figure 22. Iron mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.

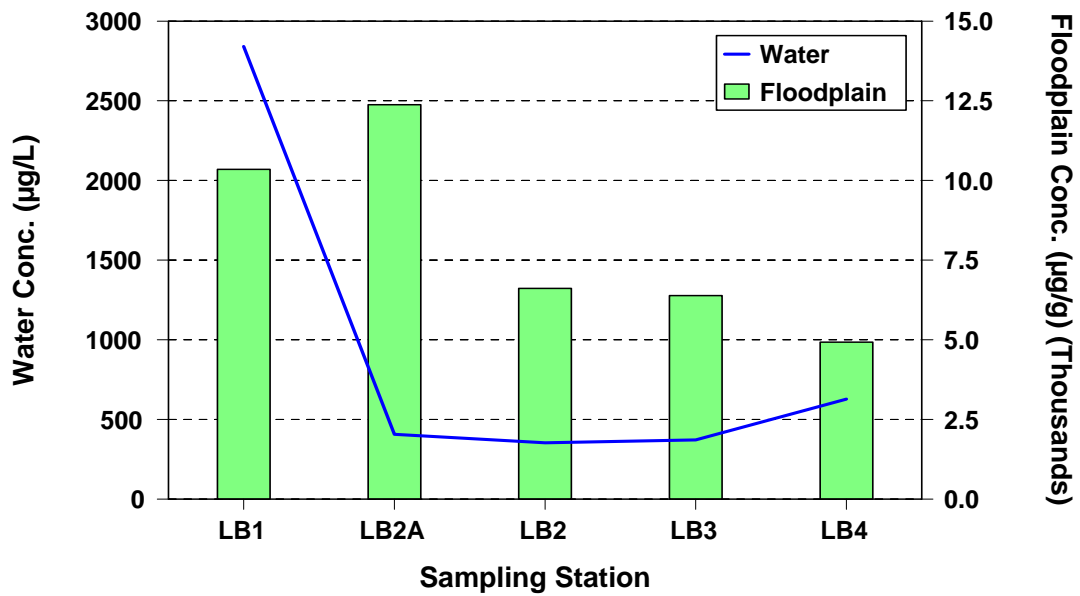


Figure 23. Lead mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

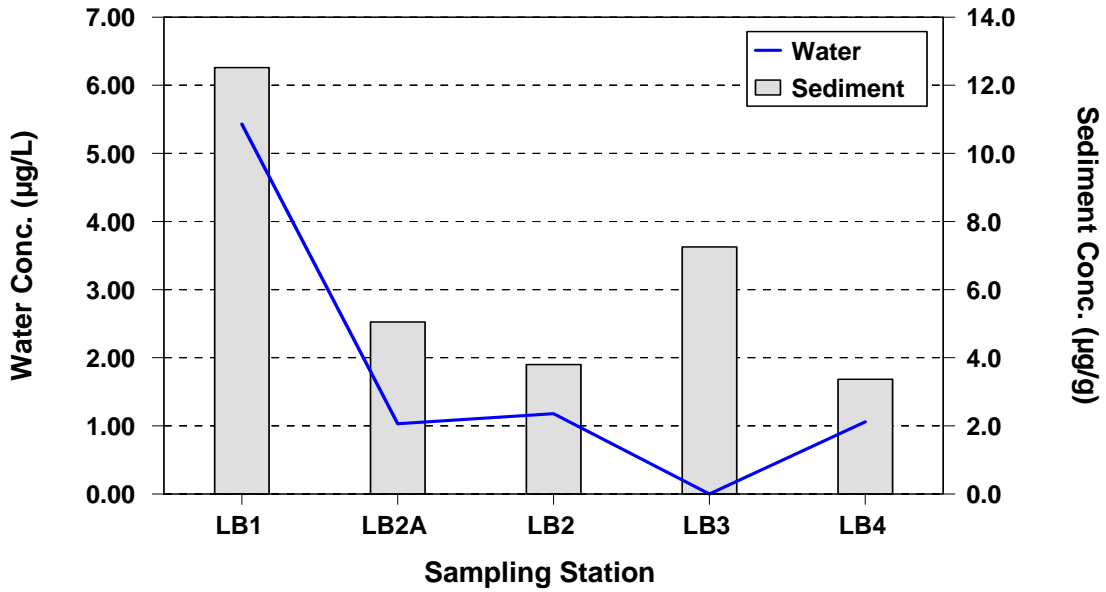


Figure 24. Lead mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.

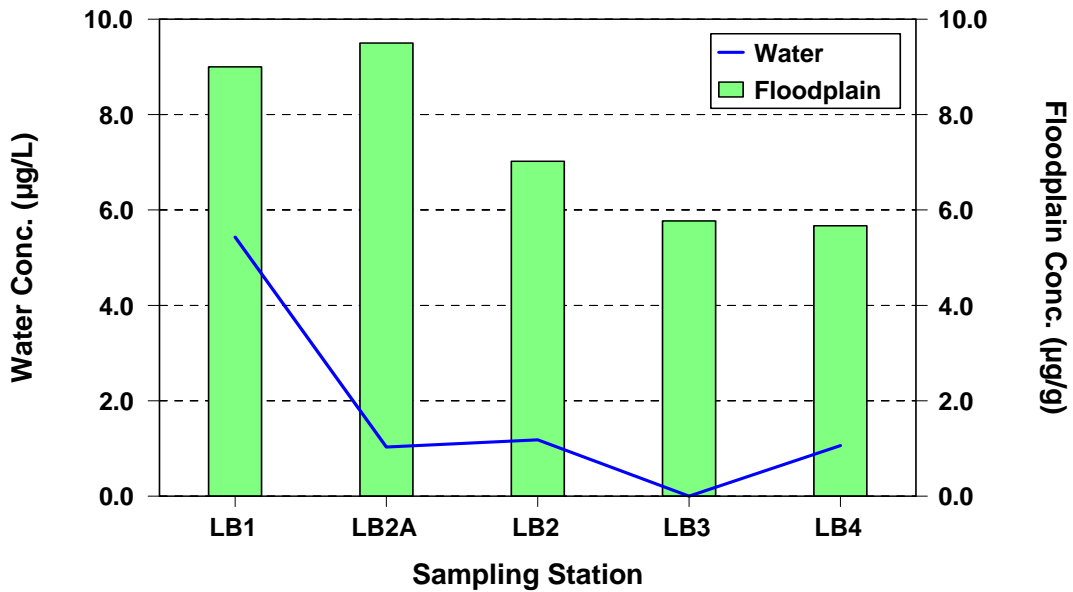


Figure 25. Nickel mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

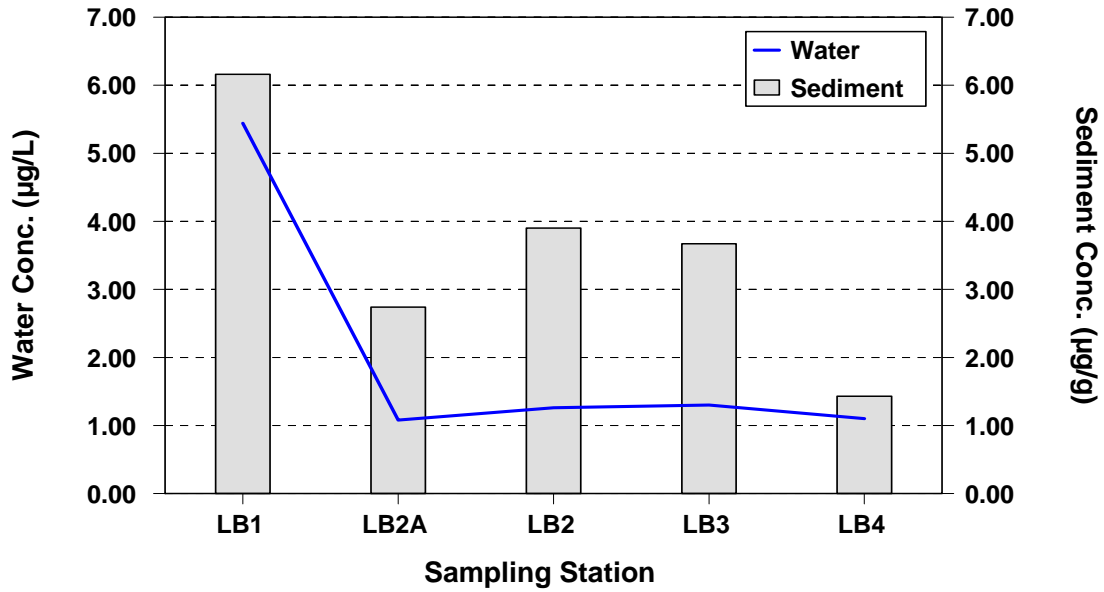


Figure 26. Nickel mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.

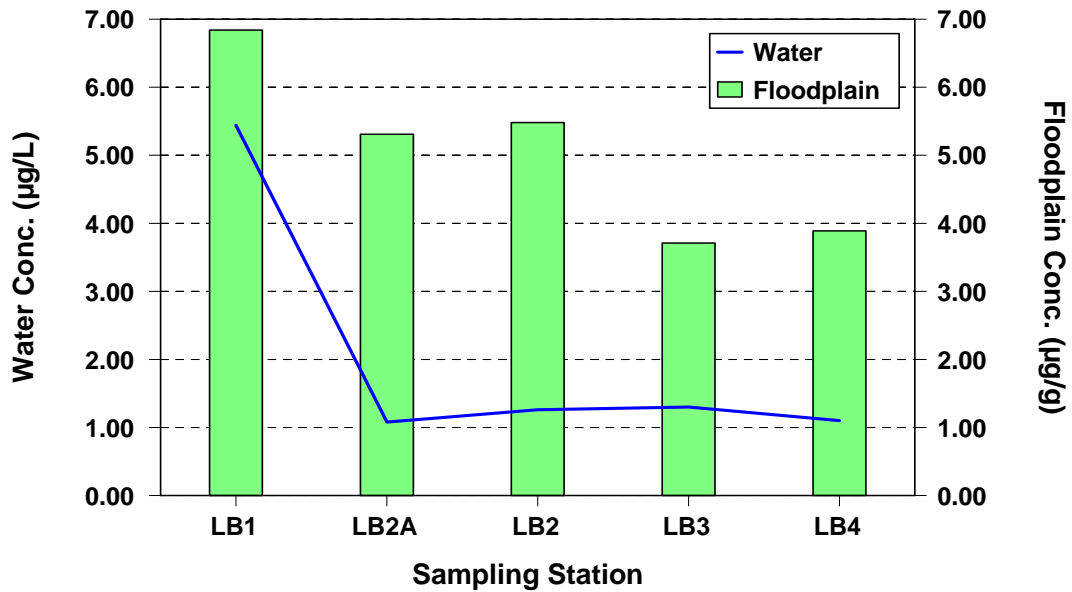


Figure 27. Zinc mean metal concentrations in water and sediments from Little Bayou Creek collected May 23-25, 2006.

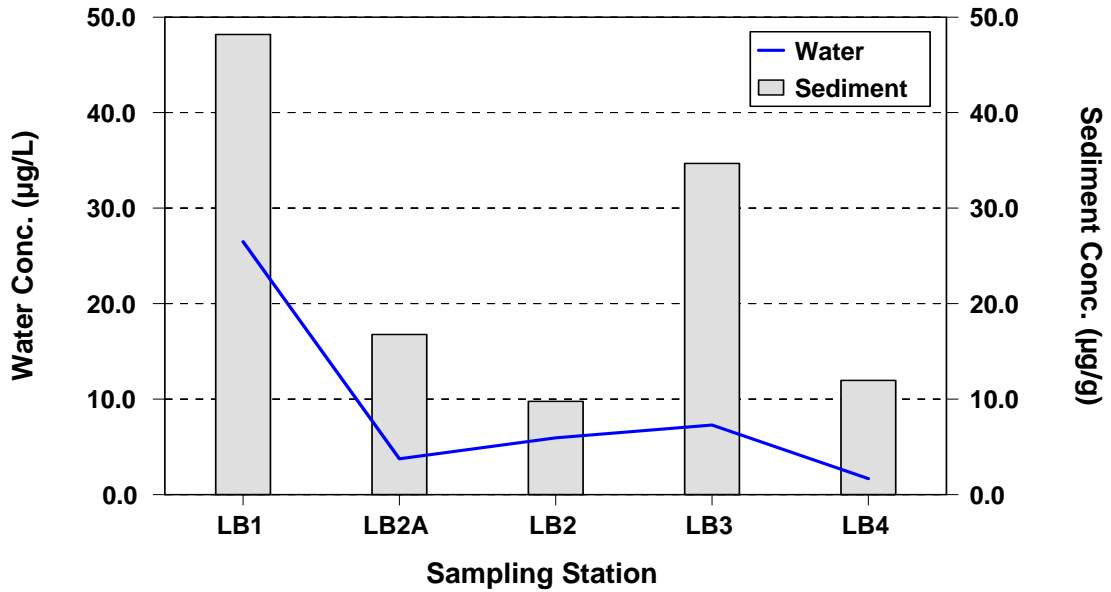
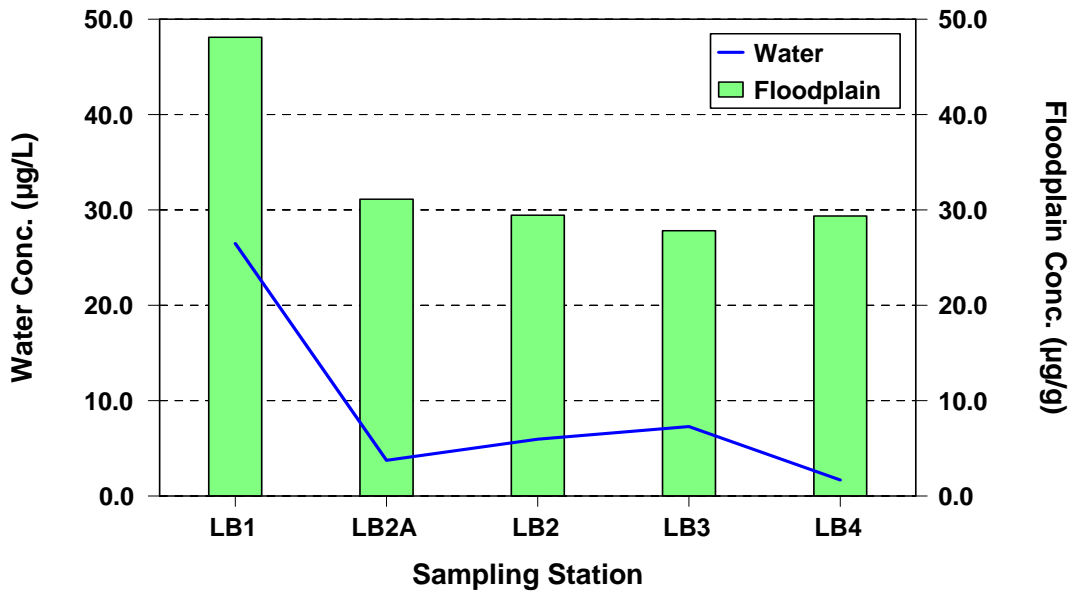


Figure 28. Zinc mean metal concentrations in water and floodplain soils from Little Bayou Creek collected May 23-25, 2006.



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