



**FIGURE 1. Sample Station Locations at Miami River, Florida, February 4-6, 1997  
(Source: USGS 1988)**

**Table 4A. Results of Metals Analysis of Sediments Collected at the Miami River on February 4-6, 1997 [all data reported in ppm ( $\mu\text{g/g}$ ) and presented on dry and wet weight basis]**  
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Station ID	PPB #	Sieve Size	Aluminum Dry/Wet	Cadmium Dry/Wet	Chromium Dry/Wet	Copper Dry/Wet
H-MR97-1	143607	100	5,150/3,660	0.2/0.1	8.7/6.2	61.0/43.3
	143608	200	2,180/1,220	0.5/0.3	15.7/8.8	113/63.3
	143609	325	538/258	0.8/0.4	23.1/11.1	234/112
	143610	>325	5,940/1,780	1.7/0.5	53.8/16.1	310/93.0
H-MR97-1 duplicate	143611	100	544/370	0.3/0.2	11.8/8.0	130/88.4
	143612	200	1,870/1,160	0.2/0.1	12.0/7.4	89.1/55.2
	143613	325	2,210/398	1.8/0.3	60.7/10.9	702/126
	143614	>325	10,600/2,540	3.0/0.7	88.9/21.3	574/138
H-MR97-2	143615	100	942/603	0.6/0.4	14.8/9.5	142/90.9
	143616	200	2,410/1,320	0.7/0.4	13.9/7.6	110/60.5
	143617	325	738/170	3.2/0.7	53.4/12.3	404/92.9
	143618	>325	10,200/3,260	17.6/5.6	92.6/29.6	302/96.6
H-MR97-3	143619	100	638/427	0.5/0.3	18.3/12.3	88.0/59.0
	143620	200	1,970/1,140	0.5/0.3	23.4/13.6	230/130
	143621	325	1,370/356	1.9/0.5	79.4/20.6	720/187
	143622	>325	11,600/2,320	3.7/0.7	139/27.8	747/149
H-MR97-4	143623	100	1,310/642	0.7/0.3	21.4/10.5	84.8/41.6
	143624	200	2,610/1,380	0.7/0.4	18.6/9.8	136/72.1
	143625	325	9,470/2,460	2.6/0.7	75.4/19.6	425/110
	143626	>325	10,600/2,440	2.8/0.6	80.6/18.5	475/109

**Table 4A. Results of Metals Analysis of Sediments Collected at the Miami River on February 4-6, 1997 [all data reported in ppm ( $\mu\text{g/g}$ ) and presented on dry and wet weight basis]**  
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Station ID	PPB #	Sieve Size	Lead Dry/Wet	Mercury Dry/Wet	Silver Dry/Wet
H-MR97-1	143607	100	0.7/0.5	0.22/0.16	0.2/0.1
	143608	200	6.3/3.5	0.76/0.42	0.7/0.4
	143609	325	42.2/20.2	1.65/0.79	0.8/0.4
	143610	>325	48.8/14.6	1.89/0.57	2.2/0.7
H-MR97-1 duplicate	143611	100	18.2/12.4	0.22/0.15	0.2/0.1
	143612	200	2.7/1.7	0.61/0.38	0.2/0.1
	143613	325	73.7/13.3	1.85/0.33	3.0/0.5
	143614	>325	118/28.3	3.68/0.88	4.3/1.0
H-MR97-2	143615	100	62.1/39.7	1.13/0.72	0.6/0.4
	143616	200	23.2/12.8	1.29/0.71	0.6/0.3
	143617	325	305/70.2	5.96/1.37	4.4/1.0
	143618	>325	61.4/19.6	7.91/2.53	9.8/3.1
H-MR97-3	143619	100	179/120	0.36/0.24	0.4/0.3
	143620	200	63.9/37.1	1.36/0.79	0.4/0.2
	143621	325	155/40.3	3.31/0.86	4.5/1.2
	143622	>325	99.4/19.9	4.35/0.87	5.7/1.1
H-MR97-4	143623	100	31.3/15.3	0.93/0.46	0.8/0.4
	143624	200	28.9/15.3	0.78/0.41	1.4/0.7
	143625	325	51.0/13.6	1.98/0.51	4.7/1.2
	143626	>325	51.5/11.8	2.84/0.65	5.3/1.2

Table 4B. Results of Metals Analysis for Miami River Water Collected February 4, 1997

Analyte	Station ID: PPB #:	H-MR97-1 142425
Cadmium		<0.10 $\mu\text{g}/\text{L}$
Chromium		<0.5 $\mu\text{g}/\text{L}$
Copper		8.8 $\mu\text{g}/\text{L}$
Lead		<2 $\mu\text{g}/\text{L}$
Mercury		<0.1 $\mu\text{g}/\text{L}$
Silver		<3.0 $\mu\text{g}/\text{L}$

Table 4C. Results of Metals Analysis for MetPro Well Water Used in Hydrocyclone Operations

Analyte	Station ID: PPB #:	Well Water 143726
Total Suspended Solids		2 mg/L
Turbidity		1.9 NTU
Aluminum		56 $\mu$ g/L
Cadmium		0.3 $\mu$ g/L
Chromium		0.4 $\mu$ g/L
Copper		71.6 $\mu$ g/L
Lead		24.6 $\mu$ g/L
Mercury		<0.1 $\mu$ g/L
Silver		<0.1 $\mu$ g/L

Table 5. Results of Metals Analysis for Course Underflow Material from Hydrocyclone  
 [all data reported in  $\mu\text{g/g}$  (ppm) and presented on dry and wet weight basis]

Station ID	PPB #	Cadmium Dry/Wet	Chromium Dry/Wet	Copper Dry/Wet	Lead Dry/Wet	Mercury Dry/Wet	Silver Dry/Wet
H-MR97-1 Underflow	144737	0.3/0.2	21.3/16.0	152/114	41.2/30.9	0.36/0.27	0.2/0.15
H-MR97-1 Duplicate Underflow	144738	0.3/0.2	40.2/26.5	95.8/63.2	33.2/21.9	0.36/0.24	0.2/0.1
H-MR97-2 Underflow	144838	1.5/1.1	57.8/43.4	138/104	144/108	2.75/2.06	0.9/0.7
H-MR97-3 Underflow	144839	0.3/0.2	129/98.0	116/88.2	432/328	0.29/0.22	0.1/0.08
H-MR97-4 Underflow	144894	0.8/0.5	27.0/16.5	111/67.7	138/84.2	1.65/1.00	0.7/0.4

Table 6. Results of Metals Analysis for Settled Overflow Fine Solid Material from Hydrocyclone  
 [all data reported in  $\mu\text{g/g}$  (ppm) and presented on dry and wet weight basis]

Station ID	PPB #	Cadmium Dry/Wet	Chromium Dry/Wet	Copper Dry/Wet	Lead Dry/Wet	Mercury Dry/Wet	Silver Dry/Wet
H-MR97-1 Overflow fines	144741	3.4/0.7	132/26.4	616/123	459/91.8	2.00/0.40	3.1/0.6
H-MR97-1 Duplicate Overflow fines	144742	2.6/0.5	130/26.0	603/121	438/87.6	3.15/0.63	3.9/0.8
H-MR97-2 Overflow fines	144896	19.2/3.6	152/28.9	362/68.8	558/106	8.21/1.56	9.5/1.8
H-MR97-3 Overflow fines	144897	4.5/0.7	272/40.8	834/125	789/118	4.52/0.68	4.5/0.7
H-MR97-4 Overflow fines	144898	4.6/0.7	151/22.6	628/94.2	486/72.9	3.00/0.45	4.7/0.7

Table 7A. Results of Turbidity Testing for Overflow (Water) Samples from Hydrocyclone

Station ID	PPB #	Turbidity (NTU)
H-MR97-1 overflow	144743	738
H-MR97-1 duplicate overflow	144744	891
H-MR97-2	144899	1,200
H-MR97-3	144900	600
H-MR97-4	144901	600

The overflow supernatant samples were treated with flocculants to investigate removal of heavy metals from the slurry water. Results of metals testing of supernatant samples after various flocculation tests are presented in Table 7B. In all cases, the metals levels are quite low. Indeed, in most cases, the metals were not detectable.

Bulk sediments were also tested for PAHs and pesticides/PCBs. When detectable, these organics were present at low levels. These results are shown in Tables 8A and 8B. These results are consistent with earlier testing of Miami River sediments, which suggest that there is little, if any, contamination from the organic compounds.

Table 7B. Results of Metals Analysis for Overflow Supernatant from Hydrocyclone after Flocculation\*  
 [all data reported in ppb ( $\mu\text{g/L}$ )]

Station ID	PPB #	Flocculation	Treatment	Cadmium	Chromium	Copper	Lead	Mercury	Silver
H-MR97-1	145568	371	<0.1	<5	<10	<1	<0.1	<0.1	<0.1
H-MR97-1	145573	455	<0.1	<5	<10	<1	<0.1	<0.1	<0.1
H-MR97-1 duplicate	145566	371	1.4	6.1	<10	<1	<0.1	<0.1	0.3
H-MR97-1 duplicate	145571	455	<0.1	7.8	<10	<1	<0.1	<0.1	<0.1
H-MR97-2	145565	371	<0.1	7.8	<10	2.6	<0.1	<0.1	<0.1
H-MR97-2	145570	455	0.1	5.2	<10	10.5	<0.1	<0.1	0.3
H-MR97-3	145564	371	<0.1	<5	<10	4.6	<0.1	<0.1	0.2
H-MR97-3	145569	455	<0.1	6.5	<10	1.2	<0.1	<0.1	<0.1
H-MR97-4	145567	371	<0.1	<5	<10	<1	<0.1	<0.1	<0.1
H-MR97-4	145572	455	<0.1	13.1	13.3	10.5	<0.1	<0.1	<0.1

\* Flocculation experiments performed by Dr. Hassan El-Shall, Engineering Research Center for Particle Science and Technology, University of Florida, Gainesville.