

Table 1: Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12' 29.17" N 42' 56.80" E)	0	Mean Range	nc all <0.20	nc all <0.20	3.02 2.28-4.00	1.21 1.05-1.40	320 143-714	15.0 11.9-18.8	7.36 4.30-12.6	0.58 <0.30-1.14	5.05 3.29-7.74	15.0 8.70-25.7
2 (12' 15.94" N 42' 58.52" E)	0	Mean Range	nc all <0.20	nc all <0.20	1.76 1.72-1.80	1.44 1.38-1.50	385 315-471	11.3 7.10-18.0	6.73 5.33-8.50	nc all <0.40	4.74 4.74-4.75	13.6 10.3-18.0
3 (12' 07.75" N 42' 58.43" E)	0	Mean Range	nc all <0.20	0.34 0.30-0.39	3.98 2.38-6.68	14.9 6.83-32.4	5314 4238-6664	19.8 12.2-32.1	40.0 18.2-87.8	1.34 0.93-1.92	8.97 3.53-22.8	56.6 53.4-60.0
4 (11' 58.43" N 43' 00.53" E)	0	Mean Range	nc all <0.20	nc <0.20-0.59	4.97 3.60-6.91	3.66 1.00-13.0	1724 407-3925	27.7 8.82-80.5	34.3 15.5-78.0	0.98 <0.39-3.10	7.37 3.71-22.5	21.1 7.40-98.5
5 (11' 53.07" N 43' 00.44" E)	0	Mean Range	nc all <0.20	nc all <0.20	3.63 2.67-4.93	3.68 3.62-3.76	516 276-965	31.8 21.5-47.2	22.2 17.3-28.4	0.42 <0.39-0.45	5.82 4.76-7.11	26.5 22.3-31.4
6 (11' 42.20" N 42' 59.55" E)	0	Mean Range	nc all <0.20	nc <0.20-0.30	4.27 3.40-5.37	3.21 1.20-8.60	749 702-799	20.0 10.2-39.3	58.5 54.0-63.3	0.61 <0.39-0.94	3.55 3.50-3.60	15.8 6.40-39.0
7 (11' 36.63" N 42' 59.35" E)	0	Mean Range	nc all <0.20	nc all <0.20	4.49 3.20-6.30	1.75 1.40-2.20	624 301-1295	6.24 2.92-13.4	59.4 46.5-75.8	0.60 <0.31-1.18	0.89 <0.40-2.00	25.7 11.8-56.0
8 (11' 31.84" N 42' 58.33" E)	0	N=1	<0.02	<0.20	3.20	1.00	292	10.4	35.3	<0.31	<0.5	10.0
9 (11' 25.15" N 42' 55.89" E)	0	Mean Range	nc all <0.20	nc all <0.20	7.40 6.99-7.83	1.05 0.80-1.39	729 539-986	35.0 18.0-68.2	65.7 45.1-95.8	nc all <0.40	2.21 1.74-2.78	10.2 4.37-24.0
10 (11' 19.94" N 42' 54.86" E)	0	N=1	<0.20	0.20	6.1	3.04	669	14.6	58.1	0.92	16.2	16.7
11 (11' 04.06" N 42' 51.89" E)	0	Mean Range	nc all <0.20	0.48 0.29-0.79	5.20 3.27-8.28	11.5 6.83-19.5	2792 1481-5265	20.9 19.4-22.4	175 83.9-364	3.49 1.95-6.23	12.4 8.65-17.9	41.5 28.9-59.8
12 (11' 01.04" N 42' 51.09" E)	0	N=1	<0.20	<0.20	2.83	1.15	103	7.6	5.1	<0.28	2.21	10.6
13 (10' 51.29" N 42' 49.03" E)	0	Mean Range	nc all <0.20	nc all <0.20	3.89 3.14-4.81	2.30 1.76-3.00	301 125-722	12.4 9.20-16.7	11.8 8.24-16.8	nc all <0.40	3.96 2.45-6.40	18.9 13.0-27.5
14 (10' 40.45" N 42' 46.66" E)	0	N=1	<0.20	<0.20	3.24	3.05	150	10.6	16.4	<0.30	3.81	38.1
15 (10' 35.69" N 42' 44.62" E)	0	Mean Range	nc all <0.20	nc all <0.20	2.98 2.78-3.20	2.26 0.60-8.50	251 114-556	10.9 6.59-18.1	12.6 5.20-30.5	0.50 <0.39-0.63	3.10 1.60-6.00	14.4 3.00-69.0
16 (10' 27.42" N 42' 41.52" E)	0	N=1	<0.20	<0.20	2.38	0.89	115	7.6	3.07	<0.31	0.74	6.93
17 (10' 16.74" N 42' 38.16" E)	0	Mean Range	nc all <0.20	nc all <0.20	2.74 2.40-3.13	0.70 0.50-0.99	114 59.0-219	4.04 3.57-4.58	2.58 2.38-2.80	nc all <0.40	1.05 <0.40-2.78	4.98 4.97-5.00
18 (10' 13.57" N 42' 37.34" E)	0	N=1	<0.20	<0.20	3.00	1.70	159	6.00	5.60	<0.31	2.75	31.0
19 (09' 45.48" N 42' 23.36" E)	0	Mean Range	nc all <0.20	nc all <0.20	1.70 1.20-2.41	0.24 0.10-0.60	119 101-139	4.82 1.47-15.9	3.04 2.20-4.20	nc all <0.40	1.00 0.80-1.25	4.00 4.00-4.00
20 (08' 53.47" N 42' 00.40" E)	0	Mean Range	nc all <0.20	nc <0.20-0.30	6.19 3.13-12.3	6.14 0.99-38.0	966 125-7440	12.7 4.85-33.3	15.6 3.97-61.5	1.21 <0.39-3.75	2.04 <0.40-10.5	24.8 3.77-163
21 (08' 31.78" N 41' 53.34" E)	0	Mean Range	nc all <0.20	nc all <0.20	2.36 1.92-2.90	0.24 0.10-0.59	58.6 41.4-82.9	5.21 1.49-18.2	2.52 2.02-3.14	nc all <0.40	nc all <0.40	5.86 2.75-12.5
22 (07' 34.96" N 41' 36.39" E)	0	Mean Range	nc all <0.20	nc all <0.20	2.56 2.22-2.94	14.2 12.1-16.7	1034 533-2006	20.1 14.9-27.2	8.18 6.48-10.3	nc all <0.40	22.2 16.0-31.0	28.5 26.6-30.6

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable

Table 1 (cont.): Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12°29.42" N 42°56.58" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.79 2.59-2.96	0.65 0.60-0.79	240 230-258	3.07 2.80-3.60	5.14 4.97-5.00	0.62 <0.39-0.78	1.19 1.17-1.20	3.96 3.90-4.00
2 (12°19.42" N 42°58.03" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.67 2.59-2.81	0.86 0.79-1.00	502 482-540	3.58 3.57-3.60	6.84 6.75-6.95	nc 0.39-0.78	4.91 4.77-5.17	10.8 9.93-12.1
3 (12°7.37" N 42°58.17" E)	10	Mean Range	nc all <0.20	0.40 0.40-0.40	9.85 9.30-9.36	14.2 11.8-16.4	3828 3477-4077	27.3 21.9-36.5	37.3 36.4-40.2	3.53 3.53-3.53	16.7 13.2-20.4	59.0 41.8-82.0
4 (11°58.20" N 42°59.77" E)	10	Mean Range	nc all <0.20	nc all <0.20	3.99 3.80-4.20	0.98 0.79-1.20	914 803-1138	5.10 4.38-5.88	19.4 16.0-23.6	nc all <0.40	3.59 3.58-3.60	6.81 5.20-8.94
5 (11°53.37" N 43°0.45" E)	10	Mean Range	nc all <0.20	nc all <0.20	4.81 4.71-5.00	1.05 0.98-1.18	904 676-1431	12.4 11.0-15.6	21.70 18.0-23.3	nc all <0.40	3.03 2.76-3.20	10.3 8.29-12.4
6 (11°42.21" N 42°59.46" E)	10	Mean Range	nc all <0.20	nc all <0.20	6.31 5.93-6.94	1.46 1.40-1.58	1008 856-1172	12.1 10.0-15.7	43.2 35.0-62.3	nc all <0.40	2.77 2.37-3.20	4.77 4.40-5.00
7 (11°36.89" N 42°58.50" E)	10	Mean Range	nc all <0.20	nc all <0.20	7.89 6.81-9.20	1.75 1.39-2.19	1591 1316-1861	11.0 8.61-12.1	62.8 62.4-63.4	nc all <0.40	1.82 1.59-2.37	4.36 4.14-4.57
9 (11°25.74" N 42°55.14" E)	10	Mean Range	nc all <0.20	nc all <0.20	7.05 5.48-8.33	1.65 1.58-7.68	1289 986-1337	24.5 9.18-103	67.4 58.0-81.5	nc all <0.40	2.38 2.37-2.40	5.39 3.95-10.5
11 (11°4.98" N 42°50.74" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.41 1.27-3.52	1.47 0.98-1.80	256 111-526	2.07 1.15-3.38	8.57 4.12-12.4	nc all <0.40	1.55 <0.39-4.80	3.87 2.55-5.20
13 (10°51.80" N 42°48.06" E)	10	Mean Range	nc all <0.20	nc all <0.20	3.98 3.89-4.05	0.60 0.59-0.60	141 140-142	6.71 2.84-15.5	7.33 6.71-8.15	nc all <0.40	2.47 1.99-3.16	3.69 3.16-4.17
15 (10°35.77" N 42°43.82" E)	10	Mean Range	nc all <0.20	nc all <0.20	3.23 3.13-3.31	1.65 1.57-1.79	149 122-210	5.85 4.11-13.7	6.01 4.97-6.86	nc all <0.40	2.05 1.59-2.75	2.77 2.75-2.78
17 (10°16.50" N 42°37.27" E)	10	Mean Range	nc all <0.20	nc all <0.20	3.28 3.09-3.68	1.11 0.98-1.19	126 106-175	11.2 8.27-14.3	5.31 4.74-5.69	nc all <0.40	1.55 1.18-1.99	5.16 4.51-6.16
19 (09°45.44" N 42°22.96" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.63 2.58-2.72	0.59 0.59-0.60	205 164-302	3.78 3.03-4.27	4.03 3.14-4.27	nc all <0.40	1.19 1.18-1.20	4.42 4.20-4.57
20 (09° 45.56" N 42° 23.15" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.75 2.72-2.78	nc all <0.20	67.5 66.7-68.4	7.05 2.42-13.2	3.23 3.00-3.38	nc all <0.40	nc all <0.40	0.92 0.79-1.00
21 (08° 53.40" N 42° 00.19" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.68 2.58-2.74	nc all <0.20	58.1 57.0-60.2	0.94 0.59-1.19	2.57 2.38-2.76	nc all <0.40	nc all <0.40	0.45 0.39-0.60
22 (08°31.82" N 41°52.63" E)	10	Mean Range	nc all <0.20	nc all <0.20	2.77 2.21-4.07	26.4 10.5-53.8	3231 2642-3760	15.6 11.8-23.4	17.1 15.8-19.7	1.17 1.16-1.18	37.7 33.0-45.2	30.5 26.8-32.6

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^cMercury concentrations as ng/g wet weight; nc = not calculable

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Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12°29.55" N 42°56.13" E)	25	Mean Range	nc all <0.20	nc all <0.20	3.07 2.95-3.22	0.85 0.77-0.99	294 236-458	5.12 4.32-6.27	5.16 4.80-5.92	nc all <0.40	1.43 1.20-1.58	5.05 4.80-5.33
2 (12°19.49" N 42°57.56" E)	25	Mean Range	nc all <0.20	nc all <0.20	4.03 3.26-5.83	1.80 1.39-2.98	820 664-1230	10.3 7.86-15.0	9.27 8.60-10.1	nc <0.39-0.78	6.76 4.77-9.54	15.6 11.4-28.0
3 (12°07.35" N 42°57.76" E)	25	Mean Range	nc all <0.20	0.60 0.60-0.60	9.34 9.30-9.36	15.0 14.4-15.5	4232 4037-4437	37.9 29.7-47.5	38.8 36.6-41.1	3.52 3.51-3.53	14.2 13.6-14.7	63.4 59.8-67.6
4 (11°58.19" N 42°59.34" E)	25	Mean Range	nc all <0.20	nc all <0.20	4.78 4.57-5.00	1.26 1.19-1.40	653 617-681	9.16 7.30-10.3	28.4 23.3-32.6	nc all <0.40	3.76 1.99-8.34	5.80 4.90-6.60
5 (11°53.41" N 42°59.80" E)	25	Mean Range	nc all <0.20	nc all <0.20	4.56 4.14-4.80	1.11 0.99-1.39	646 538-1138	14.0 12.9-20.5	20.8 16.6-26.8	nc all <0.40	2.91 2.76-3.18	7.06 5.96-8.80
6 (11°42.33" N 42°59.06" E)	25	Mean Range	nc all <0.20	nc all <0.20	6.89 5.52-9.26	1.54 1.19-2.20	1114 914-1330	12.3 11.6-12.9	50.5 34.4-92.6	nc <0.39-1.57	2.64 2.38-2.80	5.92 5.36-7.00
7 (11°36.98" N 42°58.06" E)	25	Mean Range	nc all <0.20	nc all <0.20	6.49 4.75-7.78	1.06 0.99-1.20	1099 881-1503	16.1 14.3-18.6	33.6 32.8-34.3	nc all <0.40	1.19 1.18-1.20	2.37 2.17-2.80
9 (11°25.92" N 42°54.59" E)	25	Mean Range	nc all <0.20	nc all <0.20	5.44 4.97-6.30	1.59 1.59-1.60	865 812-949	48.2 20.8-79.1	29.4 26.4-32.4	nc all <0.40	0.91 0.79-1.19	2.55 2.19-3.18
11 (11°5.12" N 42°50.27" E)	25	Mean Range	nc all <0.20	nc all <0.20	3.91 3.50-4.20	1.97 1.60-2.19	406 363-455	5.12 3.43-6.81	16.1 12.2-22.5	nc all <0.40	2.49 1.97-2.80	4.15 3.60-4.57
13 (10°51.89" N 42°47.59" E)	25	Mean Range	nc all <0.20	nc all <0.20	3.84 0.60-0.79	0.67 0.60-0.79	161 149-178	13.7 9.13-24.8	8.18 6.95-9.34	nc all <0.40	1.58 1.57-1.50	2.63 2.38-2.78
15 (10°35.98" N 42°43.30" E)	25	Mean Range	nc all <0.20	nc all <0.20	3.97 3.84-4.05	0.85 0.79-0.99	240 219-269	11.8 10.7-13.6	15.5 15.0-18.9	nc all <0.40	nc all <0.40	1.56 1.39-1.97
17 (10°16.72" N 42°36.94" E)	25	Mean Range	nc all <0.20	nc all <0.20	3.70 3.63-3.84	1.30 1.18-1.57	263 239-295	9.80 8.27-12.9	16.1 14.5-19.3	nc all <0.40	nc <0.39-0.78	1.37 1.18-1.58
19 (09°45.66" N 42°22.61" E)	25	Mean Range	nc all <0.20	nc all <0.20	2.93 2.90-2.96	0.50 0.39-0.79	110 106-114	10.4 4.18-20.1	3.68 3.33-4.00	nc all <0.40	0.63 <0.40-0.79	1.80 1.40-2.37
20 (09°45.83" N 42°22.72" E)	25	Mean Range	nc all <0.20	nc all <0.20	2.87 2.76-2.96	0.25 0.20-0.39	69.9 64.7-77.6	9.56 3.05-40.0	2.84 2.75-3.00	nc all <0.40	nc all <0.40	0.25 0.02-0.40
21 (08°53.33" N 41°59.71" E)	25	Mean Range	nc all <0.20	nc all <0.20	2.64 2.58-2.76	nc all <0.20	68.8 61.8-73.4	3.15 0.59-12.5	2.65 2.58-2.78	nc all <0.40	nc all <0.40	1.00 0.60-1.40
22 (08° 31.83" N 41° 52.12" E)	25	Mean Range	nc all <0.20	nc all <0.20	2.14 2.00-2.22	14.2 12.7-16.5	2468 2274-2622	11.4 9.52-15.3	12.5 12.3-12.8	0.96 <0.39-1.92	35.0 30.2-45.7	28.4 26.5-32.4

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			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12°29.49" N 42°55.23" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.18 3.04-3.26	0.98 0.79-1.20	472 439-508	7.41 7.15-7.91	6.45 6.40-6.56	nc all <0.40	2.17 1.60-3.18	8.09 6.40-12.5
2 (12°19.66" N 42°56.75" E)	50	Mean Range	nc all <0.20	nc all <0.20	4.25 4.13-4.32	1.58 1.40-1.79	1015 942-1061	17.9 17.3-18.5	12.1 11.4-13.3	1.29 1.17-1.55	1.65 1.20-2.37	5.35 5.00-7.45
3 (12° 07.43" N 42° 56.93" E)	50	Mean Range	nc all <0.20	nc all <0.20	6.97 6.47-7.35	5.81 6.51-5.88	2774 2684-2840	13.1 7.92-18.0	28.7 27.0-30.2	2.57 2.31-2.71	6.69 6.27-7.11	16.5 15.2-18.8
4 (11°58.02" N 42°58.63" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.92 3.80-4.00	0.52 0.40-0.60	477 423-523	6.58 5.84-7.35	19.8 17.6-24.2	nc all <0.40	nc all <0.40	1.40 1.39-1.40
5 (11°53.40" N 42°59.00" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.86 3.60-4.00	0.32 0.20-0.40	429 394-476	15.2 12.4-22.9	16.8 13.0-23.0	nc all <0.40	nc all <0.40	0.99 0.80-1.20
6 (11°42.63" N 42°58.25" E)	50	Mean Range	nc all <0.20	nc all <0.20	5.63 4.63-6.58	1.70 1.20-2.96	1279 950-1784	17.9 17.1-19.2	22.6 20.8-26.5	1.62 1.18-2.32	0.82 <0.40-1.18	4.76 3.20-7.11
7 (11°37.14" N 42°57.20" E)	50	Mean Range	nc all <0.20	nc all <0.20	4.74 4.20-5.27	1.05 0.98-1.18	965 822-1068	25.5 13.7-46.5	49.0 31.2-67.1	nc all <0.40	0.63 <0.39-0.80	1.84 1.57-2.00
9 (11°26.13" N 42°53.94" E)	50	Mean Range	nc all <0.20	nc all <0.20	4.42 3.84-5.19	0.72 0.59-0.80	693 477-929	39.6 28.9-36.1	27.1 23.9-34.8	nc all <0.40	nc all <0.40	0.88 0.59-1.20
11 (11°4.20" N 42°48.46" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.73 3.50-3.99	0.99 0.98-1.00	414 344-479	9.61 5.71-11.5	18.0 10.9-23.5	nc all <0.40	nc all <0.40	1.31 1.18-1.60
13 (10°52.02" N 42°46.96" E)	50	Mean Range	nc all <0.20	nc all <0.20	4.26 3.99-4.60	1.31 1.18-1.39	363 331-380	7.46 4.54-10.9	15.2 13.3-16.9	nc all <0.40	nc all <0.40	1.91 1.76-1.99
15 (10°36.70" N 42°42.09" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.84 3.70-3.99	0.52 0.39-0.60	213 214-217	11.2 10.6-12.4	13.9 11.8-15.5	nc all <0.40	nc all <0.40	0.79 0.78-0.80
17 (10°17.07" N 42°36.00" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.08 2.96-3.15	0.52 0.40-0.60	233 211-249	4.37 4.16-4.79	7.42 6.60-8.00	nc all <0.40	nc all <0.40	0.83 0.60-1.20
19 (09°46.07" N 42°21.88" E)	50	Mean Range	nc all <0.20	nc all <0.20	3.15 2.90-3.33	nc all <0.20	91.3 88.8-94.1	9.22 5.38-15.9	2.81 2.60-3.10	nc all <0.40	nc all <0.40	nc <0.19-2.60
19 (09° 46.21" N 42° 22.03" E)	50	Mean Range	nc all <0.20	nc all <0.20	2.74 2.71-2.76	nc all <0.20	64.6 63.0-67.0	4.77 2.42-15.0	2.75 2.57-2.98	nc all <0.40	nc all <0.40	0.63 <0.19-1.58
21 (08° 53.32" N 41° 58.81" E)	50	Mean Range	nc all <0.20	nc all <0.20	2.83 2.76-2.96	nc all <0.20	53.6 50.3-58.2	3.37 2.38-5.39	2.63 2.19-3.80	nc all <0.40	nc all <0.40	0.25 0.20-0.40
22 (08°31.91" N 41°51.32" E)	50	Mean Range	nc all <0.20	nc all <0.20	2.80 2.59-3.13	2.15 1.75-2.20	398 368-440	8.82 6.54-12.0	3.96 3.90-4.00	nc all <0.40	6.46 6.23-6.40	8.95 7.80-11.5

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable

Table 1 (cont.): Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12' 30.40" N 42' 53.55" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.23 3.00-3.70	0.57 0.40-0.80	402 346-512	7.63 7.19-7.91	8.63 6.32-12.4	nc all <0.40	nc all <0.40	1.61 1.20-1.58
2 (12' 20.10" N 42' 55.36" E)	100	Mean Range	nc all <0.20	nc all <0.20	5.04 5.00-5.12	1.70 1.40-1.96	976 874-1086	11.0 10.6-11.5	12.2 11.4-12.6	1.56 1.54-1.57	0.91 0.78-1.20	6.00 5.00-7.45
3 (12' 07.49" N 42' 55.10" E)	100	Mean Range	nc all <0.20	nc all <0.20	4.08 3.83-4.41	1.28 0.99-1.78	976 838-1221	9.90 9.49-10.2	19.9 17.9-21.8	nc <0.39-0.77	1.15 0.79-2.37	3.92 3.00-6.32
4 (11' 57.76" N 42' 57.32" E)	100	Mean Range	nc all <0.20	nc all <0.20	4.07 4.00-4.20	0.80 0.40-1.50	375 373-375	4.81 3.68-5.88	21.7 19.6-23.2	nc all <0.40	nc all <0.40	0.60 0.60-0.60
5 (11' 53.45" N 42' 57.24" E)	100	Mean Range	nc all <0.20	nc all <0.20	4.01 3.77-4.31	nc all <0.20	245 236-250	8.48 7.60-9.93	16.7 13.1-25.5	nc all <0.40	nc all <0.40	nc all <0.20
6 (11' 42.94" N 42' 56.33" E)	100	Mean Range	nc all <0.20	nc all <0.20	4.08 3.68-4.57	nc all <0.20	402 360-454	10.9 6.39-18.1	17.6 13.4-20.3	nc all <0.40	nc all <0.40	0.31 0.20-0.40
7 (11' 37.45" N 42' 56.03" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.42 2.78-3.89	0.80 0.60-1.40	555 425-697	31.6 10.5-130	20.9 14.8-36.4	nc all <0.40	nc all <0.40	0.86 0.80-1.00
9 (11' 26.45" N 42' 52.88" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.91 3.68-4.42	0.60 0.60-0.60	371 339-412	12.8 8.09-21.4	27.8 23.1-39.9	nc all <0.40	nc all <0.40	0.45 <0.20-0.79
11 (11' 05.48" N 42' 48.89" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.62 3.50-3.70	0.52 0.60-0.60	225 221-229	6.31 1.15-32.0	19.3 14.2-25.8	nc all <0.40	nc all <0.40	0.25 <0.20-0.40
13 (10' 52.22" N 42' 45.71" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.99 3.89-4.07	0.52 0.39-0.60	260 253-277	4.68 3.40-7.47	14.4 12.4-16.2	nc all <0.40	nc all <0.40	0.60 0.39-1.40
15 (10' 36.88" N 42' 41.41" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.49 3.45-3.52	0.40 0.39-0.40	196 180-216	11.9 8.38-17.9	15.6 14.1-16.5	nc all <0.40	nc all <0.40	0.65 0.59-0.79
17 (10' 17.80" N 42' 35.10" E)	100	Mean Range	nc all <0.20	nc all <0.20	2.69 2.54-2.96	0.45 0.40-0.59	176 160-203	2.93 1.80-4.70	4.81 4.20-5.40	nc all <0.40	nc all <0.40	0.52 0.40-0.60
19 (09' 47.34" N 42' 20.55" E)	100	Mean Range	nc all <0.20	nc all <0.20	3.38 3.31-3.50	nc all <0.20	86.5 76.9-93.4	6.33 3.66-16.4	3.17 2.38-4.20	nc all <0.40	nc all <0.40	nc all <0.20
20 (09' 47.20" N 42' 20.66" E)	100	Mean Range	nc all <0.20	nc all <0.20	2.71 2.58-2.78	nc all <0.20	68.9 63.6-80.4	2.53 1.83-3.63	2.86 2.80-2.98	nc all <0.40	nc all <0.40	0.40 0.40-0.40
21 (08' 53.06" N 41' 55.55" E)	100	Mean Range	nc all <0.20	nc all <0.20	2.79 2.54-3.09	nc <0.20-2.94	52.4 50.0-55.3	3.21 2.35-12.0	2.43 2.35-2.55	nc all <0.40	nc all <0.40	nc all <0.20
22 (08' 32.07" N 41' 49.66" E)	100	Mean Range	nc all <0.20	nc all <0.20	2.15 2.04-2.22	1.02 0.60-2.19	218 211-228	5.36 3.59-7.19	3.05 2.80-3.40	nc all <0.40	3.95 3.58-4.80	4.73 3.77-7.40

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable

Table 1 (cont.): Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12' 29.84" N 42' 48.33" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.73 2.39-3.02	nc all <0.20	132 122-140	4.02 3.57-5.04	4.37 3.80-4.80	nc all <0.40	nc all <0.40	0.32 0.20-0.40
2 (12' 19.20" N 42' 50.52" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.73 3.67-3.84	nc all <0.20	178 175-181	2.06 1.43-2.82	7.64 5.88-10.6	nc all <0.40	nc all <0.40	0.93 0.40-3.33
3 (12' 06.25" N 42' 50.21" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.40 3.28-3.40	nc all <0.20	160 144-178	3.03 2.19-4.38	8.58 7.55-10.2	nc all <0.40	nc all <0.40	nc all <0.20
4 (11' 58.03" N 42' 52.06" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.44 3.36-3.58	nc all <0.20	132 130-132	1.91 1.45-2.21	6.13 5.72-7.00	nc all <0.40	nc all <0.40	nc all <0.20
5 (11' 52.79" N 42' 52.07" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.42 3.33-3.58	nc all <0.20	101 86.7-134	9.21 8.13-11.1	5.93 4.12-7.50	nc all <0.40	nc all <0.40	nc all <0.20
6 (11' 43.90" N 42' 51.18" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.78 3.65-3.84	nc all <0.20	142 132-162	5.47 4.64-7.60	8.64 4.54-23.3	nc all <0.40	nc all <0.40	nc all <0.20
7 (11' 37.58" N 42' 50.89" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.16 2.90-3.31	0.45 0.39-0.60	132 124-148	75.3 56.6-100	6.26 5.29-7.35	nc all <0.40	nc all <0.40	nc <0.20-1.19
9 (11' 27.60" N 42' 47.84" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.68 2.53-2.78	0.40 0.39-0.40	90.3 83.4-102	9.81 5.78-18.0	4.8 2.78-11.2	nc all <0.40	nc all <0.40	nc all <0.20
11 (11' 06.93" N 42' 43.90" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.29 3.11-3.50	nc all <0.20	83.5 78.2-90.2	15.5 1.15-32.0	4.30 14.2-25.8	nc all <0.40	nc all <0.40	nc all <0.20
13 (10' 52.77" N 42' 40.71" E)	250	Mean Range	nc all <0.20	nc all <0.20	3.25 3.15-3.45	0.64 0.20-6.47	112 105-118	7.41 4.60-11.8	3.44 3.20-3.73	nc all <0.40	nc all <0.40	nc <0.20-2.55
15 (10' 39.41" N 42' 37.05" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.69 2.59-2.76	nc all <0.20	86.7 75.3-108	10.9 6.54-19.4	5.89 2.75-31.2	nc all <0.40	nc all <0.40	nc all <0.20
17 (10' 18.85" N 42' 30.07" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.18 2.01-2.38	nc all <0.20	62.3 57.6-66.3	8.01 5.91-12.3	2.19 1.78-3.31	nc all <0.40	nc all <0.40	nc all <0.20
19 (09' 49.84" N 42' 16.07" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.44 2.38-2.56	nc all <0.20	38.0 31.0-54.9	9.08 6.02-18.7	2.09 1.38-4.14	nc all <0.40	nc all <0.40	nc all <0.20
20 (09' 50.19" N 42' 16.78" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.64 2.58-2.76	nc all <0.20	68.7 66.8-70.0	6.05 3.63-9.09	2.99 2.98-3.00	nc all <0.40	nc all <0.40	0.86 0.79-1.00
21 (08' 52.87" N 41' 50.55" E)	250	Mean Range	nc all <0.20	nc all <0.20	2.86 2.72-2.96	nc all <0.20	53.0 50.2-55.9	6.06 5.28-7.19	2.43 2.35-2.55	nc all <0.40	nc all <0.40	0.50 0.39-0.78
22 (08' 32.46" N 41' 44.69" E)	250	Mean Range	nc all <0.20	nc all <0.20	1.91 1.85-2.04	0.46 0.40-0.60	245 198-300	1.86 1.20-2.99	1.73 1.60-1.80	nc all <0.40	2.32 1.60-2.80	2.70 2.40-3.40

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable

Table 1 (cont.): Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12' 30.75" N 42' 39.90" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.86 2.77-3.02	nc all <0.20	79.6 75-8-83.4	2.13 2.12-2.14	3.98 2.76-2.94	nc all <0.40	nc all <0.40	nc all <0.20
2 (12' 19.01" N 42' 38.40" E)	500	Mean Range	nc all <0.20	nc all <0.20	3.17 3.02-3.24	nc all <0.20	95.0 75.1-127	1.64 0.71-4.29	2.76 2.38-3.18	nc all <0.40	nc all <0.40	0.25 <0.20-0.40
3 (12' 04.50" N 42' 41.95" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.97 2.94-2.98	nc all <0.20	77.7 67.6-83.4	2.64 2.19-2.92	2.19 2.17-2.20	nc all <0.40	nc all <0.40	nc all <0.20
4 (11' 56.12" N 42' 43.97" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.65 2.58-2.78	nc all <0.20	59.1 52.5-64.8	1.46 1.46-1.47	1.97 1.79-2.40	nc all <0.40	nc all <0.40	nc all <0.20
5 (11' 51.88" N 42' 43.79" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.71 2.60-2.76	nc all <0.20	66.7 64.0-69.5	5.41 4.71-5.80	1.65 1.58-1.78	nc all <0.40	nc all <0.40	nc all <0.20
6 (11' 45.43" N 42' 43.10" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.77 2.74-2.78	nc all <0.20	56.6 52.8-58.6	6.14 4.71-7.06	2.50 1.80-4.34	nc all <0.40	nc all <0.40	nc all <0.20
7 (11' 37.85" N 42' 42.54" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.40 2.39-2.41	0.25 0.20-0.40	64.0 57.0-75.1	45.4 30.6-55.8	1.85 1.59-1.80	nc all <0.40	nc all <0.40	nc all <0.20
9 (11' 30.31" N 42' 40.03" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.39 2.22-2.59	0.32 0.20-0.40	66.8 64.0-70.0	27.7 9.88-47.9	1.9 1.57-2.60	nc all <0.40	nc all <0.40	0.25 <0.20-0.40
11 (11' 09.26" N 42' 36.14" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.89 2.78-2.96	nc all <0.20	50.3 45.0-54.5	15.8 9.20-29.3	1.25 0.99-2.00	nc all <0.40	nc all <0.40	nc all <0.20
13 (10' 56.06" N 42' 33.03" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.63 2.38-2.78	0.25 0.20-0.39	49.0 41.0-53.8	3.92 1.15-10.2	1.78 1.59-1.97	nc all <0.40	nc all <0.40	nc all <0.20
15 (10' 41.59" N 42' 30.99" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.40 2.22-2.58	nc all <0.20	47.4 44.3-52.2	7.86 5.95-11.4	1.70 1.40-2.20	nc all <0.40	nc all <0.40	nc all <0.20
17 (10' 22.14" N 42' 22.29" E)	500	Mean Range	nc all <0.20	nc all <0.20	1.87 1.83-1.98	0.25 0.19-0.39	35.4 34.1-36.7	1.69 1.18-2.33	1.18 1.17-1.18	nc all <0.40	nc all <0.40	nc all <0.20
19 (09' 54.02" N 42' 09.08" E)	500	Mean Range	nc all <0.20	nc all <0.20	2.18 2.16-2.19	nc all <0.20	29.4 22.9-37.6	9.91 6.53-13.8	1.37 1.37-1.38	nc all <0.40	nc all <0.40	nc all <0.20

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable

Table 1 (cont.): Heavy Metals in Surface Sediments from Saipan Lagoon

Storm Drain No. (15°N 145°E min/sec coordinates)	Offshore Distance (m) ^a	Statistic ^b	Heavy Metal Concentrations (µg/g dry weight) ^c									
			Ag	Cd	Cr	Cu	Fe	Hg	Mn	Ni	Pb	Zn
1 (12' 28.81" N 42' 23.57" E)	1000	Mean	nc	nc	2.84	nc	59.3	1.07	2.11	nc	nc	nc
		Range	all <0.20	all <0.20	2.39-3.39	all <0.20	56.9-62.6	0.59-1.44	1.95-2.20	all <0.40	all <0.40	all <0.20
2 (12' 17.77" N 42' 27.21" E)	940	Mean	nc	nc	2.78	nc	55.8	0.70	2.92	nc	nc	nc
		Range	all <0.20	all <0.20	2.75-2.81	all <0.20	55.4-56.1	0.70-0.71	2.57-3.58	all <0.40	all <0.40	all <0.20
3 (12' 04.21" N 42' 30.76" E)	840	Mean	nc	nc	2.96	nc	57.2	1.57	4.15	nc	nc	nc
		Range	all <0.20	all <0.20	2.96-2.96	all <0.20	52.7-59.6	0.73-7.25	2.98-7.55	all <0.40	all <0.40	all <0.20
13 (11' 01.12" N 42' 17.19" E)	1000	Mean	nc	nc	2.06	nc	43.0	0.56	1.37	nc	nc	nc
		Range	all <0.20	all <0.20	2.00-2.18	all <0.20	40.1-44.3	0.56-0.56	1.37-1.37	all <0.40	all <0.40	all <0.20
15 (10' 44.29" N 42' 12.28" E)	1000	Mean	nc	nc	2.07	nc	41.3	4.34	1.31	nc	nc	0.31
		Range	all <0.20	all <0.20	2.00-2.18	all <0.20	39.8-43.6	1.80-7.04	1.18-1.40	all <0.40	all <0.40	<0.20-0.40
17 (10' 27.77" N 42' 06.68" E)	1000	Mean	nc	nc	1.83	nc	44.2	1.49	1.34	nc	nc	nc
		Range	all <0.20	all <0.20	1.82-1.84	all <0.20	41.52-46.7	1.17-2.38	1.19-1.47	all <0.40	all <0.40	all <0.20
19 (10' 02.67" N 41' 54.51" E)	1000	Mean	nc	nc	1.65	nc	29.1	9.86	1.92	nc	nc	0.25
		Range	all <0.20	all <0.20	1.48-1.83	all <0.20	21.0-36.8	7.93-13.4	1.78-2.00	all <0.40	all <0.40	<0.20-0.40

^aSeaward distance from stormwater discharge point; ^bGeometric mean of 3 replicate samples for all offshore sites and 2 samples for all stormwater discharge points unless otherwise indicated

^cMercury concentrations as ng/g wet weight; nc = not calculable