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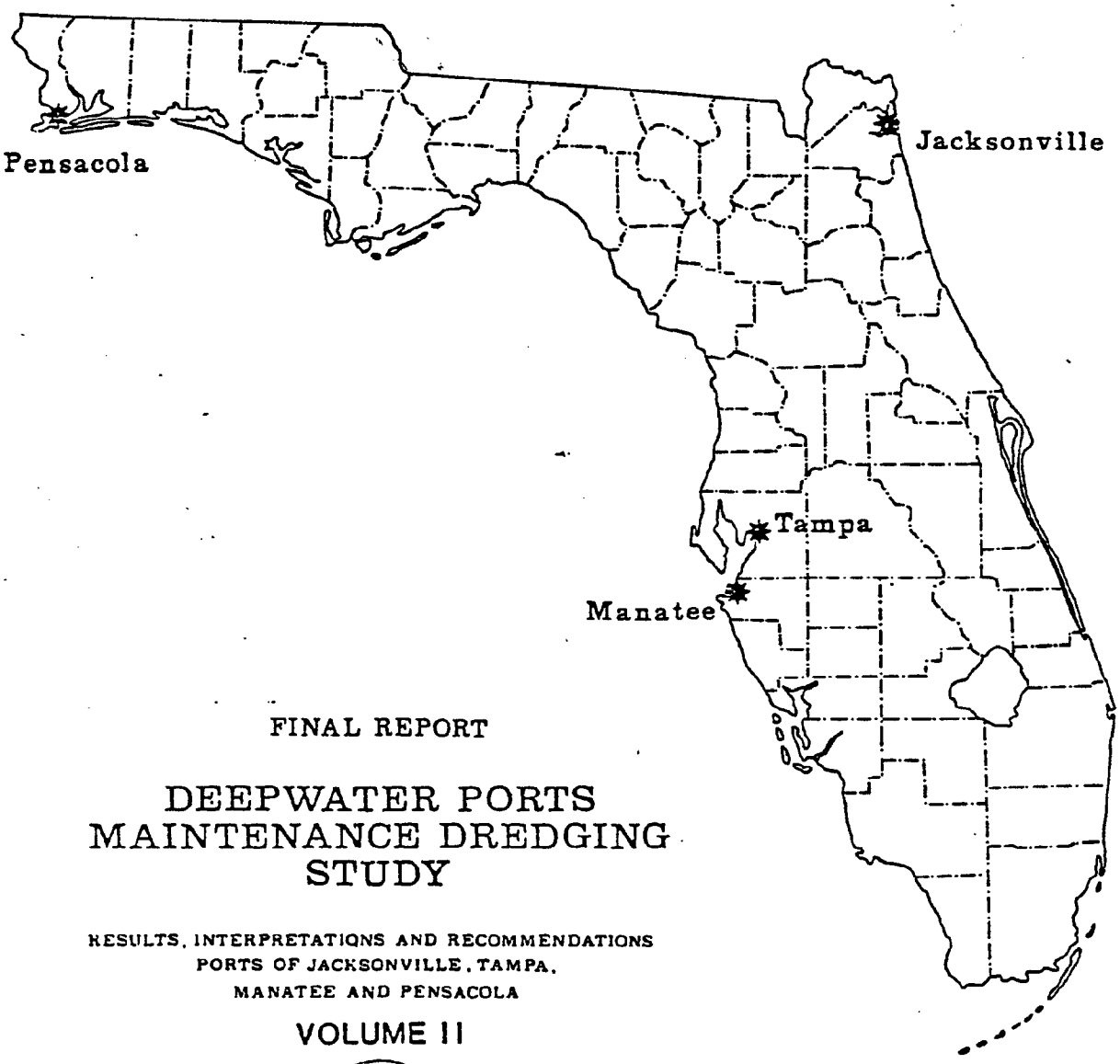

FINAL REPORT

DEEPWATER PORTS MAINTENANCE DREDGING STUDY

RESULTS, INTERPRETATIONS AND RECOMMENDATIONS
PORTS OF JACKSONVILLE, TAMPA,
MANATEE AND PENSACOLA

VOLUME II

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
OFFICE OF COASTAL MANAGEMENT

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DAMES & MOORE
BOCA RATON, FLORIDA
MAY 1983

Fl. Department of Environmental Regulation

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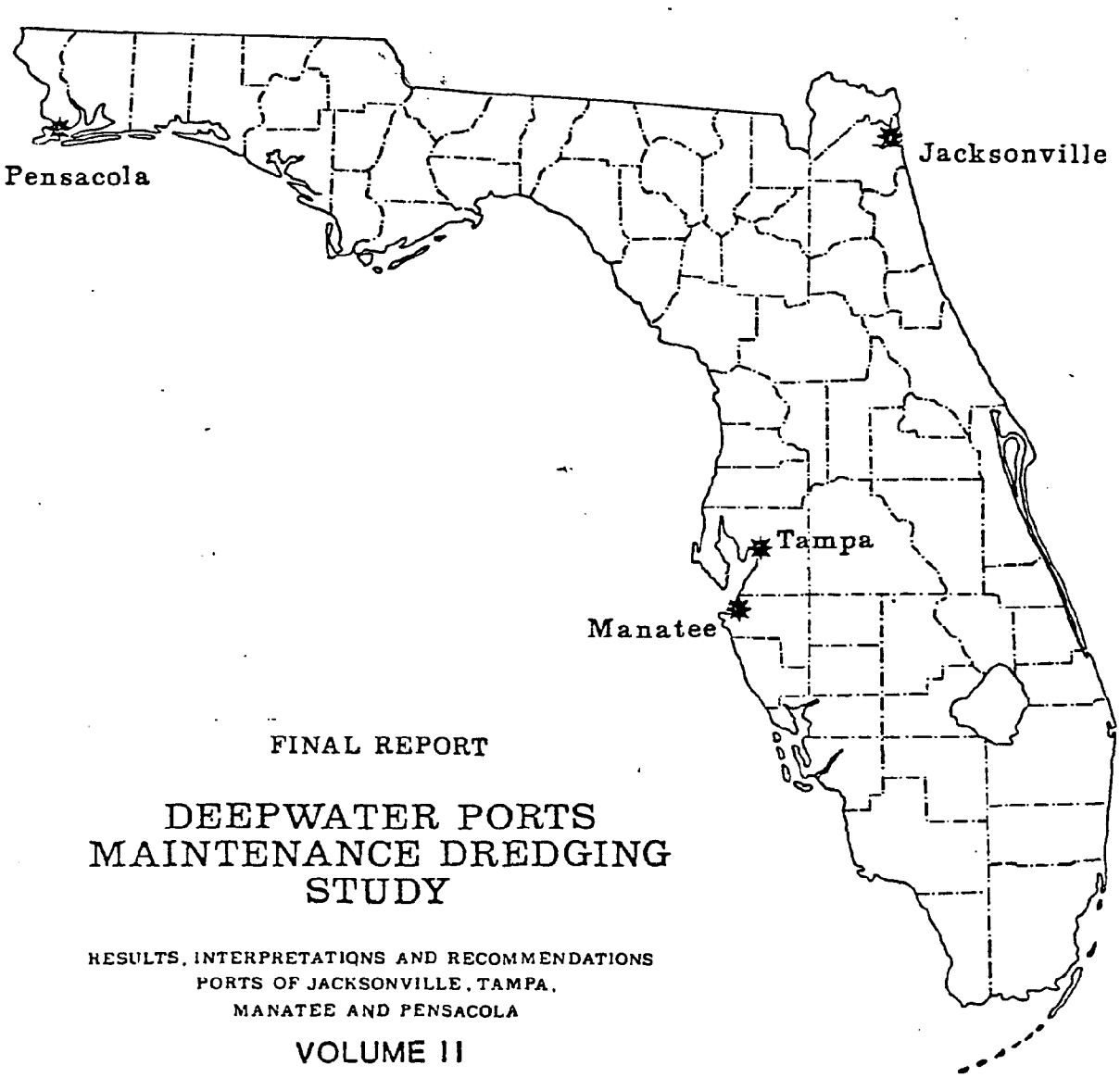

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The preparation of this report was primarily supported by a grant from the US Office of Coastal Zone Management, National Oceanic and Atmospheric Administration and the Florida Office of Coastal Management, Department of Environmental Regulation through the Coastal Zone Management Act of 1972, as amended.

FINAL REPORT
DEEPWATER PORTS MAINTENANCE DREDGING STUDY
RESULTS, INTERPRETATIONS, AND RECOMMENDATIONS
PORTS OF JACKSONVILLE, TAMPA, MANATEE AND PENSACOLA

VOLUME 2

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APPENDIX B: SPRING/DRY SEASON FIELD NOTES AND MEMORANDUM

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JOB NUMBER: 12739-005-26
DATE: MAY 5, 1983

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WATER RESULTS - Sample ID PNS-1(A)

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.1	0.9	1.7
Cadmium	0.16	0.10	0.14
Chromium	0.19	0.36	0.24
Copper	0.48	0.48	0.42
Fluoride			
Iron	6.8	7.6	6.3
Lead	0.24	0.44	0.41
Nickel	0.34	0.49	0.35
Silver	<0.01	<0.01	<0.01
Zinc	3.0	3.4	4.2
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	0.06	0.05	0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID PNS - 1(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	0.6	1.0	0.7
Nitrate-N	0.03	0.02	0.02
TKN	0.02	0.03	0.03
TSS	9.7	8.3	7.2
TOC	2.8	2.9	2.9
Total-P	0.03	0.02	0.02
Phosphate-P	0.02	0.01	0.01
μg/liter			
Mercury	0.11	0.13	0.12
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID PNS 1A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	9700	10000	9500
Antimony	<0.5	<0.5	<0.5
Arsenic	11	12	14
5 day oxygen demand mg O_2/kg sediment	14000	15000	20000
Cadmium	0.29	0.24	0.28
Chromium	64	65	59
Copper	15	20	15
Fluoride			
Iron	42000	38000	34000
Lead	36	33	36
Mercury	0.42	0.51	0.16
Nickel	21	19	19
Nitrate-N	2.0	1.9	1.9
TKN	12000	10000	12000
Silver	0.17	0.29	0.24
Total Solids (%)	31.0	26.2	26.2
TOC	86000	89000	107000
Total-P	1100	1500	1600
Phosphate-P	800	1000	1100
Zinc	94	97	95
Oil & Grease	2500	3010	5980
Specific Gravity	2.72	2.79	2.78
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID PNS 1A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	0.006	0.009
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	0.006	0.007	0.009
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.8	99.6	99.8
40	99.6	99.0	99.3
60	98.3	97.9	98.4
100	98.1	97.2	97.8
200	97.6	96.8	96.9
Hydrometer: % less than ,			
0.005 mm	53	49	48
0.001 mm	48	37	39

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WATER RESULTS - Sample ID PNS-2(B)

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.05	0.06	0.10
Chromium			
Copper	0.83	0.84	0.72
Fluoride			
Iron	1.1	1.1	1.3
Lead	0.22	0.29	0.23
Nickel	0.56	0.48	0.52
Silver			
Zinc	0.5	0.4	0.4
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID PNS - 2(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	1.2	2.1	0.9
Nitrate-N	0.02	0.02	0.02
TKN	0.04	0.04	0.03
TSS	8.0	8.0	6.4
TOC	2.3	2.9	3.4
Total-P	0.05	0.07	0.06
Phosphate-P	0.05	0.03	0.05
μg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID PNS 2B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	62000	60000	56000
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	14000	15000	18000
Cadmium	0.16	0.19	0.13
Chromium			
Copper	11	10	10
Fluoride			
Iron	22000	22000	24000
Lead	23	19	16
Mercury	0.66	0.74	0.93
Nickel	14	15	12
Nitrate-N	1.1	2.5	1.9
TKN	10000	14000	13000
Silver			
Total Solids (%)	37.5	36.0	38.7
TOC	70000	75000	85000
Total-P	1000	1500	1400
Phosphate-P	330	390	370
Zinc	59	60	52
Oil & Grease			
Specific Gravity	3.10	2.92	2.98
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID PNS 2B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.9	99.8	99.7
40	99.7	99.6	99.4
60	99.2	99.0	98.4
100	94.2	95.6	93.2
200	82.5	84.3	87.2
Hydrometer: % less than			
0.005 mm	42	44	46
0.001 mm	24	31	27

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WATER RESULTS - Sample ID PNS-3(C)

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.1	1.2	1.1
Cadmium	0.01	<0.01	<0.01
Chromium	0.13	0.16	0.16
Copper	0.67	0.61	0.52
Fluoride			
Iron	1.7	1.9	1.7
Lead	0.20	0.10	0.19
Nickel	0.93	0.64	0.72
Silver	<0.01	<0.01	<0.01
Zinc	0.3	0.2	0.2
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID PNS-3(C)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	1.9	1.5	1.7
Nitrate-N	0.03	0.03	0.03
TKN	0.03	0.02	0.03
TSS	6.2	6.7	4.9
TOC	3.0	2.7	2.9
Total-P	0.12	0.11	0.10
Phosphate-P	0.02	0.03	0.02
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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WATER RESULTS - Sample ID TPA-1A

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	2.4	2.7	2.4
Cadmium	0.08	0.07	0.07
Chromium	2.1	1.7	0.95
Copper	1.2	1.5	1.5
Fluoride	1.0	1.1	1.1
Iron	4.0	2.7	3.8
Lead	0.72	0.74	0.83
Nickel	1.1	1.0	1.1
Silver	0.01	<0.01	0.02
Zinc	1.7	1.3	1.7
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	0.05	<0.04	0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-1(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.10	0.10	0.11
BOD_5	1.9	1.9	1.9
Nitrate-N	0.06	0.09	0.06
TKN	0.3	0.4	0.4
TSS	67	47	43
TOC	8.9	8.9	7.6
Total-P	0.53	0.62	0.63
Phosphate-P	0.58	0.56	0.56
µg/liter			
Mercury	0.1	0.1	0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 1A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2200	2400	2100
Antimony	<0.5	<0.5	<0.5
Arsenic	6.8	10	11
5 day oxygen demand mg O_2/kg sediment	3300	3900	3500
Cadmium	2.1	2.4	2.0
Chromium	110	100	90
Copper	120	130	130
Fluoride	16	11	14
Iron	18000	21000	19000
Lead	130	120	140
Mercury	1.2	1.5	0.8
Nickel	50	52	38
Nitrate-N	1.9	1.8	1.8
TKN	3200	3700	2900
Silver	0.89	1.0	0.87
Total Solids (%)	24.4	24.2	27.5
TOC	21000	26000	22000
Total-P	3400	2800	3200
Phosphate-P	3300	2400	2900
Zinc	300	350	320
Oil & Grease	1900	3700	2100
Specific Gravity	2.78	2.82	2.73
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 1A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	0.02	0.01	0.02
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	0.009	0.006
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	98.9	99.2	98.7
40	97.5	97.9	97.2
60	93.4	92.8	91.4
100	84.2	85.6	80.2
200	75.4	72.3	79.6
Hydrometer: % less than			
0.005 mm	58	62	48
0.001 mm	42	39	36

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WATER RESULTS - Sample ID TPA-2A

µg/liter	Replicate Sample I	II	III
Antimony	0.2	0.1	0.1
Arsenic	1.6	1.9	1.8
Cadmium	0.08	0.08	0.10
Chromium	1.2	2.0	0.72
Copper	0.5	0.5	0.5
Fluoride	1.2	1.1	1.2
Iron	8.1	8.0	7.4
Lead	0.73	0.70	0.89
Nickel	1.1	1.1	1.0
Silver	0.01	<0.01	0.01
Zinc	0.8	0.7	1.7
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-2(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	3.0	2.2	2.1
Nitrate-N	0.07	0.09	0.08
TKN	0.3	0.1	0.3
TSS	98	91	91
TOC	7.7	8.2	7.9
Total-P	0.70	0.68	0.68
Phosphate-P	0.61	0.59	0.56
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 2A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	1100	1200	1600
Antimony	<0.5	<0.5	<0.5
Arsenic	<1.0	<1.0	<1.0
5 day oxygen demand mg O_2/kg sediment	810	1400	1100
Cadmium	0.84	0.85	1.2
Chromium	56	53	19
Copper	2.9	4.7	4.3
Fluoride	9.2	8.1	7.0
Iron	8200	7200	7100
Lead	9.3	6.5	6.6
Mercury	0.25	0.16	0.19
Nickel	12	6.6	9.4
Nitrate-N	0.64	0.71	0.82
TKN	420	820	760
Silver	0.17	0.20	0.25
Total Solids (%)	39.0	41.2	50.7
TOC	6200	9600	7400
Total-P	4700	4200	4000
Phosphate-P	4200	360	3300
Zinc	30	19	27
Oil & Grease	250	930	740
Specific Gravity	2.44	2.48	2.49
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 2A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.8	100	99.7
40	98.4	99.2	99.1
60	96.1	95.9	96.8
100	87.2	87.2	89.4
200	80.2	81.5	82.7
Hydrometer: % less than			
0.005 mm	62	59	52
0.001 mm	51	42	39

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WATER RESULTS - Sample ID TPA-3B

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.12	0.13	0.12
Chromium			
Copper	0.55	0.55	0.50
Fluoride	1.1	1.1	1.2
Iron	9.0	9.0	12.0
Lead	1.8	2.1	2.1
Nickel	0.72	0.94	1.2
Silver			
Zinc	1.0	1.4	1.1
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-3(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.04	0.01	0.01
BOD_5	2.6	2.7	2.6
Nitrate-N	0.05	0.06	0.06
TKN	0.3	0.2	0.4
TSS	18	21	24
TOC	8.9	9.6	9.6
Total-P	0.56	0.55	0.56
Phosphate-P	0.50	0.50	0.52
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 3B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2400	2200	2100
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	4000	3200	2800
Cadmium	1.2	1.4	1.7
Chromium			
Copper	6.7	7.6	5.5
Fluoride	28	21	19
Iron	14000	16000	13000
Lead	14	19	11
Mercury	0.60	0.51	0.55
Nickel	13	15	26
Nitrate-N	0.70	1.10	1.0
TKN	3800	3200	3300
Silver			
Total Solids (%)	23.4	29.8	31.6
TOC	29000	21000	17000
Total-P	5200	4200	4200
Phosphate-P	4800	3800	3600
Zinc	55	56	45
Oil & Grease			
Specific Gravity	2.67	2.69	2.63
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 3B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	98.4	99.0	100
40	97.6	97.2	98.2
60	95.4	95.3	97.6
100	89.1	89.8	90.5
200	78.6	74.3	81.1
Hydrometer: % less than			
0.005 mm	41	45	49
0.001 mm	38	30	42

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WATER RESULTS - Sample ID TPA-4B

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.06	0.07	0.09
Chromium			
Copper	0.5	0.6	0.6
Fluoride	1.1	1.1	1.1
Iron	7.1	2.5	4.4
Lead	0.5	0.6	1.4
Nickel	1.6	1.4	1.4
Silver			
Zinc	1.1	0.8	0.6
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-4(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.02	<0.01	<0.01
BOD_5	1.9	1.9	1.7
Nitrate-N	0.05	0.07	0.07
TKN	0.1	0.07	0.1
TSS	15	16	16
TOC	7.4	5.5	7.2
Total-P	0.65	0.62	0.62
Phosphate-P	0.62	0.55	0.56
µg/liter			
Mercury	<0.1	0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 4B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	4100	3600	3200
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	6300	6300	6400
Cadmium	4.0	3.2	3.5
Chromium			
Copper	20	13	24
Fluoride	63	65	59
Iron	24000	20000	22000
Lead	43	32	44
Mercury	1.4	1.1	1.2
Nickel	28	45	24
Nitrate-N	0.29	0.30	0.40
TKN	5600	5200	5400
Silver			
Total Solids (%)	16.1	18.5	17.6
TOC	44000	37000	42000
Total-P	9300	7500	7400
Phosphate-P	8300	7000	6800
Zinc	150	160	160
Oil & Grease			
Specific Gravity	2.37	2.44	2.42
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 4B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
DDE	<0.001	0.001	<0.001
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.9	100	100
40	99.8	99.9	99.8
60	99.5	99.7	99.7
100	98.8	99.1	98.3
200	97.8	98.2	96.2
Hydrometer: % less than			
0.005 mm	78	80	72
0.001 mm	40	52	38

Radium Results from Spring Sampling

Station TPA 4B

Water Sample	pCi/L
Replicate 1	2.2
Replicate 2	<2
Replicate 3	<2

Sediment Sample	pCi/g (dry basis)
Replicate 1	<0.05
Replicate 2	<0.05
Replicate 3	<0.05

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WATER RESULTS - Sample ID TPA-5B

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.07	0.07	0.06
Chromium			
Copper	0.45	1.4	0.49
Fluoride	1.1	1.2	1.1
Iron	4.0	2.8	5.9
Lead	0.68	0.76	0.72
Nickel	1.0	1.5	1.1
Silver			
Zinc	0.7	0.5	0.8
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-5(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	2.3	2.9	2.7
Nitrate-N	0.06	0.05	0.06
TKN	0.2	0.2	0.2
TSS	89	86	79
TOC	8.9	8.9	8.5
Total-P	0.61	0.58	0.62
Phosphate-P	0.58	0.56	0.56
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 5B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	3700	3700	3200
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	2700	2500	2700
Cadmium	0.71	0.50	0.59
Chromium			
Copper	7.1	4.9	3.8
Fluoride	12	14	14
Iron	24000	25000	23000
Lead	13	18	11
Mercury	0.54	0.80	0.72
Nickel	13	9.4	19
Nitrate-N	0.85	1.1	1.1
TKN	1200	1600	1100
Silver			
Total Solids (%)	31.3	30.2	29.9
TOC	20000	19000	21000
Total-P	3300	3100	3300
Phosphate-P	3000	2400	2800
Zinc	28	31	34
Oil & Grease			
Specific Gravity	2.72	2.64	2.78
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 5B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.7	99.2	99.7
40	99.3	98.7	98.9
60	98.8	97.2	96.7
100	98.2	96.3	96.5
200	97.1	95.2	95.4
Hydrometer: % less than			
0.005 mm	90	78	69
0.001 mm	62	52	47

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WATER RESULTS - Sample ID TPA-6B

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.13	0.04	0.04
Chromium			
Copper	0.75	0.50	0.52
Fluoride	1.1	1.0	1.1
Iron	1.7	3.5	1.9
Lead	0.35	0.42	1.8
Nickel	0.70	0.92	1.0
Silver			
Zinc	0.6	0.7	0.6
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-6(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	0.02
BOD_5	2.5	2.9	6.4
Nitrate-N	0.05	0.04	0.04
TKN	0.3	0.3	0.6
TSS	40	41	34
TOC	5.8	5.4	12.2
Total-P	0.62	0.56	0.59
Phosphate-P	0.50	0.52	0.50
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID TPA 6B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	3600	3300	1900
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	2220	2800	2700
Cadmium	1.5	1.9	1.2
Chromium			
Copper	16	15	10
Fluoride	16	24	21
Iron	11000	19000	12000
Lead	48	75	42
Mercury	0.44	0.48	0.33
Nickel	10	14	8.9
Nitrate-N	0.96	1.1	0.98
TKN	2600	2100	1800
Silver			
Total Solids (%)	29.1	21.4	30.5
TOC	18000	29000	25000
Total-P	3200	5300	3700
Phosphate-P	2700	4100	3600
Zinc	170	190	110
Oil & Grease			
Specific Gravity	2.86	2.84	2.81
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID TPA 6B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	0.006	tr?
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.6	99.7	99.8
40	99.0	99.6	98.4
60	96.2	96.8	97.2
100	82.4	84.7	83.9
200	69.7	72.8	70.3
Hydrometer: % less than			
0.005 mm	45	49	52
0.001 mm	31	27	21

tr? - May contain a trace but less than detection limit.

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WATER RESULTS - Sample ID TPA-7C

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.2	1.4	1.4
Cadmium	0.05	0.03	0.04
Chromium	0.72	0.42	0.52
Copper	0.52	0.40	0.40
Fluoride	1.0	0.9	1.0
Iron	1.7	1.9	1.0
Lead	0.32	0.22	0.29
Nickel	0.31	0.39	0.26
Silver	<0.01	<0.01	<0.01
Zinc	1.0	1.4	0.6
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID TPA-7(C)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	1.5	0.8	1.6
Nitrate-N	0.05	0.04	0.03
TKN	0.1	0.06	0.04
TSS	10	8.2	7.3
TOC	4.2	4.0	5.6
Total-P	0.35	0.29	0.30
Phosphate-P	0.09	0.09	0.08
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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WATER RESULTS - Sample ID MAN-1A

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.9	1.7	1.8
Cadmium	0.04	0.04	0.04
Chromium	0.60	0.42	0.57
Copper	0.41	0.63	0.43
Fluoride	0.9	0.9	0.9
Iron	4.6	5.2	2.7
Lead	0.30	0.25	0.21
Nickel	0.40	0.44	0.38
Silver	<0.01	<0.01	<0.01
Zinc	0.5	0.7	1.2
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID MAN1(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.02	0.01	0.01
BOD_5	2.2	1.9	2.0
Nitrate-N	0.04	0.04	0.03
TKN	0.2	0.1	0.1
TSS	20	20	17
TOC	5.2	4.8	5.3
Total-P	0.26	0.29	0.30
Phosphate-P	0.24	0.20	0.20
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID MAN 1A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2000	1600	1900
Antimony	<0.5	<0.5	<0.5
Arsenic	4.5	9.1	4.7
5 day oxygen demand mg O_2/kg sediment	5200	6700	7400
Cadmium	0.62	0.55	0.74
Chromium	62	55	54
Copper	11	9.5	10
Fluoride	21	20	25
Iron	15000	14000	13000
Lead	11	8.6	10
Mercury	0.29	0.22	0.37
Nickel	13	11	12
Nitrate-N	0.81	0.92	0.97
TKN	2200	1700	4100
Silver	0.19	0.16	0.24
Total Solids (%)	21.6	26.2	24.1
TOC	26000	23000	34000
Total-P	4000	4600	5200
Phosphate-P	2700	2800	3700
Zinc	85	68	77
Oil & Grease	750	750	960
Specific Gravity	2.71	2.74	2.70
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID MAN 1A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	100	100	99.9
40	99.8	99.8	99.6
60	99.6	99.7	98.4
100	98.4	98.6	96.7
200	95.9	96.4	94.2
Hydrometer: % less than			
0.005 mm	43	38	38
0.001 mm	22	27	21

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WATER RESULTS - Sample ID MAN-2B

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.10	0.04	0.03
Chromium			
Copper	1.1	1.2	1.0
Fluoride	1.0	1.0	1.0
Iron	2.5	3.7	2.7
Lead	0.25	0.34	0.21
Nickel	0.45	0.52	0.41
Silver			
Zinc	0.8	0.8	0.7
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID MAN-2(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	<0.01	<0.01	<0.01
BOD_5	3.7	2.4	2.9
Nitrate-N	0.03	0.03	0.03
TKN	0.1	0.1	0.2
TSS	22	24	46
TOC	4.8	5.1	5.1
Total-P	0.29	0.29	0.26
Phosphate-P	0.24	0.23	0.21
μg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID MAN 2B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2000	2200	1600
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	14000	12000	8200
Cadmium	1.0	0.65	0.31
Chromium			
Copper	9.6	10	5.0
Fluoride	19	15	16
Iron	18000	13000	11000
Lead	12	11	7.7
Mercury	0.29	0.32	0.18
Nickel	11	17	22
Nitrate-N	0.50	0.58	0.64
TKN	7300	7000	3300
Silver			
Total Solids (%)	22.4	22.7	30.1
TOC	42000	32000	20000
Total-P	5500	4500	2700
Phosphate-P	3400	3000	2200
Zinc	23	32	40
Oil & Grease			
Specific Gravity	2.76	2.74	2.79
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID MAN 2B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	100	100	99.8
40	99.6	99.7	99.6
60	99.1	99.2	98.2
100	96.0	97.4	94.0
200	90.3	90.9	87.3
Hydrometer: % less than			
0.005 mm	25	29	30
0.001 mm	19	20	16

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WATER RESULTS - Sample ID JAX-1(B)

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.03	0.04	0.03
Chromium			
Copper	1.2	0.91	1.1
Fluoride			
Iron	20.0	16.0	18.0
Lead	2.1	1.7	2.0
Nickel	0.56	0.52	0.50
Silver			
Zinc	1.6	1.4	1.6
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX - 1(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.01	<0.01	0.01
BOD_5	2.9	2.9	3.6
Nitrate-N	0.17	0.14	0.15
TKN	0.9	0.9	0.6
TSS	26	25	26
TOC	13.1	12.6	12.6
Total-P	0.18	0.17	0.14
Phosphate-P	0.11	0.10	0.09
µg/liter			
Mercury	0.10	0.10	0.13
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 1B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	54	90	71
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	410	310	330
Cadmium	0.02	0.08	0.06
Chromium			
Copper	1.3	1.0	1.1
Fluoride			
Iron	560	870	540
Lead	25	2.2	2.4
Mercury	0.15	<0.10	0.13
Nickel	<1.0	<1.0	<1.0
Nitrate-N	4.1	6.5	4.9
TKN	210	320	190
Silver			
Total Solids (%)	73.9	75.0	72.6
TOC	5300	4000	5000
Total-P	110	110	160
Phosphate-P	26	35	32
Zinc	5.8	8.3	6.5
Oil & Grease			
Specific Gravity	2.59	2.68	2.54
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 1B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.9	100	100
40	99.5	100	98.6
60	90.0	89.2	82.7
100	13.3	15.6	17.2
200	0.3	1.2	1.9
Hydrometer: % less than			
0.005 mm			
0.001 mm			

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WATER RESULTS - Sample ID JAX-2A

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.9	2.0	1.6
Cadmium	0.04	0.04	0.06
Chromium	1.0	0.69	0.93
Copper	1.1	0.88	0.97
Fluoride			
Iron	20.0	14.0	17.0
Lead	1.8	2.0	1.7
Nickel	0.64	0.57	0.73
Silver	<0.01	<0.01	<0.01
Zinc	1.6	1.1	1.0
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID Jax - 2A

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.02	0.02	0.01
BOD_5	2.6	2.9	2.6
Nitrate-N	0.11	0.13	0.17
TKN	0.8	0.7	0.8
TSS	30	21	26
TOC	10.9	11.3	10.9
Total-P	0.25	0.22	0.25
Phosphate-P	0.09	0.08	0.09
µg/liter			
Mercury	0.13	0.14	0.10
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 2A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	96	270	82
Antimony	<0.5	<0.5	<0.5
Arsenic	<1.0	<1.0	1.1
5 day oxygen demand mg O_2/kg sediment	350	440	530
Cadmium	0.06	0.06	0.03
Chromium	8.3	6.4	4.1
Copper	1.9	5.7	2.7
Fluoride			
Iron	1000	2600	1000
Lead	9.3	13	3.1
Mercury	0.24	0.24	0.17
Nickel	<1.0	<1.0	<1.0
Nitrate-N	0.58	0.66	0.59
TKN	170	260	530
Silver	0.03	0.03	0.02
Total Solids (%)	76.2	74.7	76.9
TOC	3000	3700	4500
Total-P	100	160	190
Phosphate-P	32	46	32
Zinc	9.6	23	13
Oil & Grease	560	480	520
Specific Gravity	2.68	2.68	2.70
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 2A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	0.006	<0.006	tr?
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.9	99.8	99.6
40	99.2	99.0	98.6
60	80.4	80.7	77.9
100	10.4	14.7	14.2
200	0.6	1.3	1.9
Hydrometer: % less than			
0.005 mm			
0.001 mm			

tr? - May contain a trace but less than detection limit.

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WATER RESULTS - Sample ID JAX-3A

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.7	1.6	1.9
Cadmium	0.04	0.03	0.03
Chromium	1.4	0.6	1.2
Copper	0.95	0.91	1.0
Fluoride			
Iron	23.0	20.0	20.0
Lead	1.3	1.1	1.1
Nickel	0.60	0.64	0.73
Silver	<0.01	<0.01	<0.01
Zinc	1.0	1.2	1.3
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-3(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.01	<0.01	0.01
BOD_5	2.9	2.0	2.7
Nitrate-N	0.08	0.11	0.10
TKN	0.7	0.4	0.6
TSS	91	87	78
TOC	10.9	9.5	10.5
Total-P	0.15	0.23	0.15
Phosphate-P	0.09	0.08	0.08
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 3A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2200	2500	2900
Antimony	<0.5	<0.5	<0.5
Arsenic	6.1	8.8	4.9
5 day oxygen demand mg O_2/kg sediment	2800	4100	5400
Cadmium	0.38	0.28	0.77
Chromium	38	42	68
Copper	22	27	27
Fluoride			
Iron	18000	20000	23000
Lead	34	25	17
Mercury	0.32	0.62	0.82
Nickel	7.2	10	25
Nitrate-N	0.58	0.61	0.67
TKN	3000	3400	9100
Silver	0.55	0.26	0.24
Total Solids (%)	30.9	26.5	23.4
TOC	7500	12000	14000
Total-P	1730	1280	1930
Phosphate-P	510	480	800
Zinc	120	130	170
Oil & Grease	1130	1680	1990
Specific Gravity	2.46	2.50	2.42
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 3A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	tr?	tr?	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
DDE	<0.001	0.001	<0.001
2 - Chlorophenol	<0.01	0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.8	100	100
40	99.7	99.7	99.3
60	99.2	98.2	99.0
100	93.4	92.7	94.3
200	67.2	72.7	64.3
Hydrometer: % less than			
0.005 mm	40	29	34
0.001 mm	15	9	7

tr? - May contain a trace but less than detection limit.

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WATER RESULTS - Sample ID JAX-4(B)

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.02	0.01	0.02
Chromium			
Copper	0.91	0.83	0.82
Fluoride	0.7	0.6	0.6
Iron	15.0	17.0	19.0
Lead	1.1	1.2	1.1
Nickel	0.49	0.60	0.58
Silver			
Zinc	0.6	0.8	0.7
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-4(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.03	0.03	0.02
BOD_5	2.3	2.1	1.9
Nitrate-N	0.09	0.09	0.11
TKN	0.6	0.4	0.4
TSS	72	57	65
TOC	8.6	9.0	8.6
Total-P	0.15	0.15	0.14
Phosphate-P	0.09	0.11	0.09
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 4B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	2900	3400	3700
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	7700	6600	7700
Cadmium	0.34	0.53	0.53
Chromium			
Copper	19	24	28
Fluoride	<0.5	<0.5	<0.5
Iron	22000	27000	28000
Lead	31	51	54
Mercury	0.61	1.5	1.3
Nickel	12	16	20
Nitrate-N	0.87	1.2	1.0
TKN	9100	11000	7200
Silver			
Total Solids (%)	21.3	16.7	19.6
TOC	44000	44000	42000
Total-P	2300	2400	2000
Phosphate-P	810	1000	890
Zinc	110	160	180
Oil & Grease			
Specific Gravity	2.42	2.48	2.39
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 4B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	0.007	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	100	100	100
40	99.6	99.2	99.4
60	99.4	98.3	98.1
100	96.3	97.2	95.3
200	91.8	94.7	92.6
Hydrometer: % less than			
0.005 mm	51	43	39
0.001 mm	43	26	29

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WATER RESULTS - Sample ID JAX-5(B)

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.06	0.06	0.06
Chromium			
Copper	0.85	1.1	1.1
Fluoride			
Iron	7.6	6.3	6.8
Lead	0.96	1.0	0.96
Nickel	0.60	0.42	0.38
Silver			
Zinc	0.7	0.6	0.6
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-5(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.06	0.05	0.04
BOD_5	1.6	2.1	1.7
Nitrate-N	0.17	0.12	0.15
TKN	0.6	0.6	0.6
TSS	63	64	59
TOC	9.7	9.8	9.7
Total-P	0.25	0.26	0.24
Phosphate-P	0.11	0.11	0.11
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 5B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	43	77	38
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	170	160	140
Cadmium	0.03	0.02	0.07
Chromium			
Copper	<1.0	<1.0	<1.0
Fluoride			
Iron	490	830	500
Lead	0.78	0.51	0.70
Mercury	0.17	0.13	0.14
Nickel	<1.0	1.2	<1.0
Nitrate-N	0.36	0.27	0.34
TKN	620	920	420
Silver			
Total Solids (%)	78.5	76.2	75.7
TOC	860	1400	1100
Total-P	41	83	90
Phosphate-P	9.5	22	14
Zinc	5.4	7.1	3.7
Oil & Grease			
Specific Gravity	2.49	2.49	2.45
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 5B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	99.2	98.4	98.7
40	96.4	96.0	95.2
60	71.8	78.2	73.7
100	4.7	5.9	6.2
200	0.4	2.7	3.2
Hydrometer: % less than			
0.005 mm			
0.001 mm			

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WATER RESULTS - Sample ID JAX-6(A)

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	2.0	1.8	2.1
Cadmium	0.03	0.04	0.04
Chromium	1.3	1.6	1.9
Copper	1.3	1.3	1.1
Fluoride			
Iron	11.0	10.0	7.6
Lead	1.5	1.7	1.3
Nickel	0.51	0.37	0.38
Silver	0.03	0.02	0.02
Zinc	0.6	0.6	0.6
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-6(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.02	<0.01	<0.01
BOD_5	2.4	2.3	2.9
Nitrate-N	0.13	0.16	0.17
TKN	0.4	0.3	0.3
TSS	52	55	58
TOC	8.5	8.7	9.5
Total-P	0.19	0.16	0.18
Phosphate-P	0.10	0.09	0.08
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 6A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	25	73	75
Antimony	<0.5	<0.5	<0.5
Arsenic	<1.0	<1.0	<1.0
5 day oxygen demand mg O_2/kg sediment	210	140	260
Cadmium	0.09	0.08	0.02
Chromium	0.59	0.82	2.8
Copper	2.1	<1.0	1.4
Fluoride			
Iron	3700	620	710
Lead	0.65	0.82	0.88
Mercury	0.10	0.11	0.16
Nickel	1.1	1.0	<1.0
Nitrate-N	1.3	1.4	1.3
TKN	46	91	87
Silver	0.05	0.06	0.02
Total Solids (%)	78.0	76.1	74.4
TOC	930	750	1200
Total-P	410	230	240
Phosphate-P	72	45	52
Zinc	47	2.8	5.0
Oil & Grease	170	140	290
Specific Gravity	2.65	2.67	2.68
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 6A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	100	100
10	100	100	100
20	98.5	97.2	98.4
40	93.7	92.7	93.8
60	82.4	84.7	79.7
100	7.7	9.0	11.2
200	1.3	1.4	1.2
Hydrometer: % less than			
0.005 mm			
0.001 mm			

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WATER RESULTS - Sample ID JAX-7(A)

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.6	1.8	1.6
Cadmium	0.07	0.03	0.03
Chromium	1.8	0.83	0.78
Copper	1.2	1.2	1.3
Fluoride			
Iron	7.6	7.2	7.5
Lead	0.87	0.90	0.99
Nickel	0.28	0.35	0.32
Silver	0.02	0.02	0.02
Zinc	0.8	0.6	0.8
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX - 7(A)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.01	<0.01	<0.01
BOD_5	1.9	2.0	2.2
Nitrate-N	0.09	0.10	0.08
TKN	0.6	0.5	0.6
TSS	58	60	49
TOC	8.8	9.3	9.2
Total-P	0.35	0.29	0.30
Phosphate-P	0.09	0.09	0.08
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 7A

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	910	210	430
Antimony	<0.5	<0.5	<0.5
Arsenic	<1.0	<1.0	<1.0
5 day oxygen demand mg O_2/kg sediment	440	300	400
Cadmium	0.29	0.10	0.08
Chromium	17	3.4	3.7
Copper	<1.0	1.2	<1.0
Fluoride			
Iron	7300	1900	2100
Lead	2.5	4.7	1.8
Mercury	0.27	0.14	0.15
Nickel	<1.0	<1.0	<1.0
Nitrate-N	0.98	0.82	0.97
TKN	260	440	350
Silver	0.04	0.02	0.04
Total Solids (%)	73.9	79.8	74.6
TOC	1100	1000	1100
Total-P	680	650	690
Phosphate-P	120	110	120
Zinc	21	8.4	9.2
Oil & Grease	180	140	150
Specific Gravity	2.96	3.20	2.98
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 7A

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	96.7	NO SAMPLE	NO SAMPLE
10	92.7		
20	85.2		
40	71.7		
60	53.1		
100	13.5		
200	2.5		
Hydrometer: % less than			
0.005 mm			
0.001 mm			

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WATER RESULTS - Sample ID JAX-8(B)

µg/liter	Replicate Sample I	II	III
Antimony			
Arsenic			
Cadmium	0.02	0.02	0.03
Chromium			
Copper	0.96	0.96	0.98
Fluoride			
Iron	3.7	2.2	2.7
Lead	0.56	0.68	0.58
Nickel	0.2	0.3	0.2
Silver			
Zinc	0.6	0.4	0.4
Phenols			
2 - chlorophenol			
phenol			
2,4 - dichlorophenol			
2,4,6 - trichlorophenol			
4 - chloro-m-cresol			
2,4 - dinitrophenol			
pentachlorophenol			
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-8(B)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.06	0.05	0.05
BOD_5	3.1	1.9	3.1
Nitrate-N	0.09	0.09	0.10
TKN	0.3	0.4	0.4
TSS	40	65	41
TOC	9.5	8.4	8.7
Total-P	0.13	0.13	0.11
Phosphate-P	0.07	0.07	0.05
μg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

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SEDIMENT RESULTS - Sample ID JAX 8B

ppm (dry basis)	Replicate Sample I	II	III
Aluminum	130	67	150
Antimony			
Arsenic			
5 day oxygen demand mg O_2/kg sediment	150	300	170
Cadmium	0.08	0.04	0.07
Chromium			
Copper	<1.0	1.1	<1.0
Fluoride			
Iron	1100	1000	970
Lead	0.97	0.76	0.21
Mercury	0.20	0.17	0.19
Nickel	<1.0	<1.0	<1.0
Nitrate-N	0.63	0.76	0.60
TKN	85	190	110
Silver			
Total Solids (%)	75.3	79.2	76.4
TOC	750	920	780
Total-P	140	180	160
Phosphate-P	120	120	90
Zinc	3.1	2.8	2.9
Oil & Grease			
Specific Gravity	2.63	2.78	2.69
Radium 226 (pCi/kg)			

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SEDIMENT RESULTS - Sample ID JAX 8B

ppm (dry basis)	Replicate Sample I	II	III
Mirex	<0.001	<0.001	<0.001
Toxaphene	<0.02	<0.02	<0.02
DDT	<0.001	<0.001	<0.001
Aldrin	<0.001	<0.001	<0.001
Chlordane	<0.006	<0.006	<0.006
Other Chlorinated			
2 - Chlorophenol	<0.01	<0.01	<0.01
Phenol	<0.2	<0.2	<0.2
2,4 - Dichlorophenol	<0.1	<0.1	<0.1
2,4,6 - Trichlorophenol	<0.01	<0.01	<0.01
4 - Chloro-m-cresol	<0.2	<0.2	<0.2
2,4 - Dinitrophenol	<0.3	<0.3	<0.3
Pentachlorophenol	<0.005	<0.005	<0.005
PCB's	<0.002	<0.002	<0.002
Grain Size: % passing thru sieve no. 4	100	NO SAMPLE	NO SAMPLE
10	94.8		
20	86.5		
40	67.2		
60	49.7		
100	7.4		
200	0.5		
Hydrometer: % less than			
0.005 mm			
0.001 mm			

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WATER RESULTS - Sample ID JAX-9C

µg/liter	Replicate Sample I	II	III
Antimony	<0.1	<0.1	<0.1
Arsenic	1.0	0.9	1.1
Cadmium	0.02	0.01	0.02
Chromium	0.37	0.12	0.10
Copper	0.65	0.65	0.76
Fluoride			
Iron	1.8	1.8	1.6
Lead	0.21	0.18	0.24
Nickel	0.24	0.21	0.18
Silver	0.03	0.01	0.01
Zinc	0.4	0.6	0.7
Phenols			
2 - chlorophenol	<0.1	<0.1	<0.1
phenol	<1.0	<1.0	<1.0
2,4 - dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - trichlorophenol	<0.07	<0.07	<0.07
4 - chloro-m-cresol	<1.0	<1.0	<1.0
2,4 - dinitrophenol	<0.7	<0.7	<0.7
pentachlorophenol	<0.04	<0.04	<0.04
Radium 226 (pCi/liter)			

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WATER RESULTS - Sample ID JAX-9(C)

mg/liter	Replicate Sample I	II	III
Ammonia-N	0.03	0.02	0.02
BOD_5	2.6	2.0	2.4
Nitrate-N	0.04	0.04	0.03
TKN	0.04	0.05	0.04
TSS	54	51	50
TOC	2.7	3.0	2.8
Total-P	0.02	0.03	0.03
Phosphate-P	0.01	0.01	0.01
µg/liter			
Mercury	<0.1	<0.1	<0.1
Pesticides			
Mirex	<0.03	<0.03	<0.03
Toxaphene	<0.25	<0.25	<0.25
DDT	<0.01	<0.01	<0.01
Aldrin	<0.005	<0.005	<0.005
Chlordane	<0.2	<0.2	<0.2
Other Chlorinated			
PCB's	<0.25	<0.25	<0.25

STATION: PNS 1(A)
DATE: April 27, 1982

PNS 1 was located in the Port of Pensacola in an area known as the Inner Harbor Channel, approximately 250 yards south of the docks. Sample collection proceeded uneventfully with no equipment problems. Visual water quality was good. Sediments were gelatinous and black/green with an odor of H_2S.

Samples were taken to the Greyhound Bus station by DFH and JDC. This concluded sampling in Pensacola.

D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
2739-004

Daniel F. Hoito 4/27/82

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-1

DATE: 4-27-82

PREVIOUS NIGHT'S WEATHER:

Partly cloudy to clear, no rain, 10-15 knot wind from NW

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):

5% cloud cover, Wind from NW (very reduced breeze because of the land fall) approx. 10 knot windspeed Temperature 29°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

Seas 0-1' w/ slight surface chop, no algal plumes, turb. plumes or foaming. Current 1 knot

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):

Barge traffic near shoreline. Ship docked in area of warehouse 250 yds. east of ~~Station~~. Large ship leaving warehouse area w/ large assist. Same ship docking and anchoring 100 yds from PNS-1. Ship moving to dock app. 400 yds parallel to our ~~station~~

GENERAL COMMENTS:

1 other small boat passed through the area

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

DFH 4/27/82

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-1

DATE: 4-27-82

COLLECTED BY: (SIGN & DATE

Jeff Constant 4-27-82

Water depth ~~32' 33'~~ 32'-33'

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CONDO µMOHMS	TURBID NTU
	ARRIVE: 1103 DEPART: 1310	32' TO 33'	ARRIVE: LOST ON PNS-3 DEPART:	22° C (YSI DO) 24° C 23° C (SCT)	INITIAL: 31 REF. 23 SCT FINAL: 32 REF.	INITIAL: ~~6.2~~ ? 8.0 FINAL 8.1	6.6	320	ARRIV 4.8 DEPA

CHECK WHEN COLECTED:

REPLICATE	1	2	3	
METALS (3.2.3) 6-½ L.	✓	✓	✓	(6½ L SAMP
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	9
*PHENOLS (3.2.8)	✓	✓	✓	B 3

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓
ATTERBURG SAMPLES	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar

BENTHOS DATA FORM
Card 1

Data Set Type Benthic Grab (1-3) | Date (yr,mo,day) 1982 04 27 (4-9) | Site PNS-1 (10-11)

Station PNS-1 (12-13) | Sample No. PNS-1 (14-16) | ~~River Mile~~ (17-19)

Time Code 1 (20) | Time 1235 (21-24) | Depth Units Code (25)

Depth of Sample (26-31) | Investigator JC, DH, PB (32-34)

Substrate Type Organic Rich silty clay (35-36) | Coll. Dev. (37-38) | Sieve Code (39-40)

Preservative Formalin (41-42) | Meter Start — (43-49) | Meter Stop — (50-56)

Time of tow min. — (57-59) | Sec. — (60-61) | Tide — (70)

Time Code 0 = CDT
1 = CST

Depth Units 1 = Meters
2 = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Sample	Container	Subst. Type
BEN	R_1	
BEN	R_2	
BEN	R_3	

Investigators JC, PB, DH

Time stop 1311

Time start 1235

Total

Notes: Some caustic odor
Several large polychaetes were observed in each replicate. Very little shell hash material

Prepared by Jeff Constant Date 4-27-82

Checked by [illegible] Date 4/27/82

B-1

STATION: PNS 2(B)
DATE: April 26, 1982

PNS 2 was located adjacent to Bay Channel between Fair Point on the east and The Naval Air Station to the west. The sampling proceeded under Dr. Herb Windom's supervision. The peristaltic pumps performed poorly-one infact was broken (variable speed control non-functioning). Sampling was generally uneventful. Phil will be conducting all water quality collection using the pump, additionally, he will conduct all acidification. Jeff will record all notes and pertinent observations. Darrell will calibrate and deploy electronic sampling equipment. Darrell and Jeff will conduct biological and sediment sampling. Phil will place sediments in proper containers. Darrell will sieve all biological samples. Phil will conduct all bathymetry transects.

This was the only station sampled this date due to a trial run being conducted in the morning and necessarily waiting for additional sampling equipment to arrive at the local D.E.R.

Samples were taken to the Greyhound Bus station by DFH and JDC.

Addendum: Port of Pensacola - Tuesday, April 27, 1982 Meeting.

Attendees:

Fred Calder	- DER	Dave Young	- D&M
Lou Burney	- DER	Bob Glassen	- D&M
Joe Ryan	- DER	Phil Bowen	- D&M
Doug Jones	- DFA	Jeff Constant	- D&M
Bill Fehring	- TPA	Darrell Howton	- D&M
Herb Windom	- D&M		

Discussions and Results:

1. Jacksonville station locations were outlined by Fred and Joe.

2. Benthos collected only at spoil island discharge pipes in all ports. Collected with ponar.

3. Loss of secchi disc of no concern. Can be discontinued.

4. Use Dr. Fehring's Lexan corer to collect physical sediment and atterburg limit samples. Continue using ponar/Ekman for sediment chemistry.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

Dennis F. Hoots
9/27/82

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Pensacola 1547

STATION NUMBER: PNS-2(B) DEW

DATE: 4-26-82

PREVIOUS NIGHT'S WEATHER:

Partly cloudy w/only a very slight sprinkle nearly n

T-SHOWERS NORTH OF PNS

WIND - S-SW 15-20 KNOTS

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):

≅° 26.5 °C

40-60% CLOUD COVER

WIND SOUTHWEST 15-20 KTS.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

SEAS 1-1.5'

NO PLUMES, BLOOMS, FOAMING

SPORADIC WHITE CAPS

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):

NO OUTFALLS

[illegible] SHIP TRAFFIC

GENERAL COMMENTS:

[illegible]

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

Darrell F. Hawes
9/27/82

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-2(B)DFH

DATE: 4-26-82

COLLECTED BY: (SIGN & DATE)
JC, PB, DH, HW
Jeff Constant 4-26-82

34.0' TOTAL DEPTH

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	COND MOHMS	TURBIDITY NTU
	ARRIVE: 1547 DEPART: 1615		~~16.0~~ ARRIVE: ~~16.0~~ 16.0' DEPART: ~~16.0~~	21.0°C	INITIAL: 32 REF. SET 28 FINAL: 33 REF.	INITIAL: 7.6 FINAL 9.0	6.7	3.60	ARRIVE: 1.1 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
METALS (3.2.3)	✓	✓	✓
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	✓	✓	✓
PESTICIDES (3.2.7)	✓	✓	✓
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 9"X9" PONAR

BENTHOS DATA FORM
Card 1

Data Set Type BENTHIC GRAB (1-3) Date (yr,mo,day) 1982 04 26 (4-9) Site PNS 2 (10-11)

Station PNS 2 (12-13) Sample No. PNS 2 (14-16) ~~River Mile~~ (17-19)

Time Code ~~1547~~ 1 (20) Time ~~1547~~ 1655 (21-24) Depth Units Code (25)

Depth of Sample 34' (26-31) Investigator CONSTANT HOWTON, BOWEN (32-34)

Substrate Type OOZE (35-36) Coll. Dev. 9"x9" PONAR (37-38) Sieve Code # 18 (1 (39-40)

Preservative FORMALIN-10% (41-42) Meter Start — (43-49) Meter Stop — (50-56)

Time of tow min. — (57-59) Sec. — (60-61) Tide — (70)

Time Code 0 = CDT
(1) = CST

Depth Units 1 = Meters
(2) = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Sample	Container	Sub Ty
BEN	R1	
BEN	R2	
BEN	R3	

Investigators JC, PB, DH, HW

Time stop 1815

Time start 1655

Total

Notes: SUBSTRATE CONSISTED OF SILTY OOZE W/ SLIGHT SMELL OF H_2S. BRITTLE STARS, POLYCHAETES, & ONE PISTOL SHRIMP NOTED.

Prepared by JEFF CONSTANT Date 4-26-82

Checked by JH Date 4/26/82.

STATION: PNS 3(C)
DATE: April 27, 1982

PNS 3 was the designated control station (upper end salinity of at least 32ppt) located in the Gulf of Mexico south of Ft. Pickens in an area known as the middle grounds. The incoming current was extremely swift - eventually twisting the secchi disc off of the lead line. Sampling proceeded smoothly, however, the peristaltic pump threatened to quit on at least two occasions. The sediments consisted of well washed sands and shell hash. Visual water quality was very good.

Samples were taken to the Greyhound Bus station by DFH and JDC.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

Daniel F. Hunter
4/27/82

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-3(C) DFH

DATE: 4-27-82

PREVIOUS NIGHT'S WEATHER:
Partly Cloudy to clear, no rain, 15 knots wind from NW

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
No cloud cover, ~~15 20~~ 10-15 knot wind from NW
18°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
0-1' ft. windy chop w/some larger swells. (2-3')
No algal or turbidity plumes. No foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
No outfalls, Several Med. boats through channel
~~Ships passing~~, 1 barge passing on northern coast - 3/4 of a mile away. (1020)

GENERAL COMMENTS:
Tide going in w/very strong current
Tide at 2-3 knots

.R. PORTS AND HARBORS
JTENANCE DREDGE STUDY
39-004

Darrell F. Howe
4/27/82

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET
SAVANNAH WABS CARTON (C)

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-3(C)DEH

COLLECTED BY: (SIGN & DATE)

DATE: 4-27-82

Jeff Constant 4-27-82

Water Depth 20'.0

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	COND µOHMS	TURBIDITY NTU
	ARRIVE: 08:40	20'	ARRIVE: LOST SECCHI	22° C	INITIAL: 32.5 REF ~~32.5~~ SCT	INITIAL: 8.2	6.7	390	ARRIVE: 1.0
	DEPART: 1031		DEPART:	20° C (SCT) 21° C YSI DO	FINAL: 33 REF	FINAL 8.1			DEPART:

CHECK WHEN COLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	3 additional bottle filled 9 total
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY No sediments collected at PNS-3

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)			
PCB, PEST., O&G, PHENOLS (3.3.4)			

SAMPLING EQUIPMENT (FILL IN): _____

BENTHOS DATA FORM
Card 1

Data Set Type Benthic Grab (1-3) Date (yr,mo,day) 1982 04 27 (4-9) Site PNS-3 (10-11)

Station PNS-3 (12-13) Sample No. PNS-3 (14-16) ~~River Mile~~ (17-19)

Time Code 1 (20) Time (21-24) Depth Units Code (25)

Depth of Sample 30.0 (26-31) Investigator CONSTANT HOUSTON BOWEN (32-34)

Substrate Type SAND (MED. TO FINE) (35-36) Coll. Dev. 9"X9" PONAR (37-38) Sieve Code #32 (0.5 (39-40)

Preservative FORMALIN (41-42) Meter Start — (43-49) Meter Stop — (50-56)

Time of tow min. — (57-59) Sec. — (60-61) Tide — (70)

Time Code 0 = CDT
1 = CST

Depth Units 1 = Meters
2 = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Investigators JC, PB, DH, JHW

Time stop 1017

Time start 0950

Total

Sample	Container	Sub Ty
BEN	R1	
BEN	R2	
BEN	R3	

Notes: Some organisms smaller than mesh size went through. Numerous small polychaetes were observed swimming through sieve mesh.

Prepared by JEFF CONSTANT Date 4-27-82

Checked by Darrell E. Hotto Date 9/27/82

STATION: TPA 1(A)
DATE: May 14, 1982

TPA 1 was located in the middle of the Garrison/Ybor Channel Turning Basin. During sampling there were 15 ships of various sizes within eyesight. A ship lying due east of the station was being loaded with citrus pellets, causing a large amount of "citrus dust" to be spread throughout the immediate vicinity. Sampling proceeded smoothly until sediment samples were collected. Apparently, the area had been recently dredged because repeated ponar grabs retrieved only small amounts of pebble. To collect sediments from the basin we moved northwest alongside a berthing dock. We could not get the ponar to trip and collect a sample so we replaced it with an unweighted Ekman Grab and proceeded with sediment sampling. Atterburg and physical sediment samples were collected with a Lexan Corer.

Samples were taken to the Tampa Greyhound Bus station by PB.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

Darrell R. Horton

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 1(A)

DATE: 5-14-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy, no rain, winds from E @ 5-10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
0 cloud cover some haze, winds from the E @ less than 5 knots, Air Temp. 22°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
No waves, slight wind chop, no turbidity plumes, no algal plumes, no foaming. Orange pellet dust(?) on water surface.

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
No observable outfalls, ships loading + unloading docked all around TPA 1(A) on both sides of the channel. Barge traffic w/tug assist

GENERAL COMMENTS:

Dorsey & Waters

:R. PORTS AND HARBORS
VTENANCE DREDGE STUDY
39-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 1(A)

DATE: 5-14-82

COLLECTED BY: (SIGN & DATE)
R. Dal, RB, Jeff Constant
5-14-82

WATER QUALITY Mid-depth data in table

TTOM		TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CONDO MOHMS	TURBIDITY NTU
35.0 430 2.8 0, 24.8°C (DC) 26.0°C (SCT) force 33.0 362 4.0 4. 25° (DC) 24° (SCT)		ARRIVE: 0925 DEPART: 1033	38.0	ARRIVE: NO DATA DEPART:	Am. Air 14.8°C (DO) 25°C (DC) 24.2°C (SCT)	INITIAL: 33.0 (Est) 26.0 (REF) FINAL: 26.0 (REF)	INITIAL: 8.2 FINAL 8.1	3.2	368	ARRIVE: 8.5 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	–	–	} #7 total
BOD, F, TSS (3.2.4)	–	–	–	
NH_4 (3.2.5)	–	–	–	
PESTICIDES (3.2.7)	–	–	–	} 9 total
*PHENOLS (3.2.8)	–	–	–	

SEDIMENTOLOGY 1 Atterberg, 1 for Geo-Eng.

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
TS, TOC, METALS, ETC. (3.3.3)	–	–	–	H_2SO_4 odiferous
PCB, PEST., O&G, PHENOLS (3.3.4)	–	–	–	

man worked
9" was unsuccessful

B-16

SAMPLING EQUIPMENT (FILL IN): ~~Grab Sampler~~ Eckman Ponar, Lehigh Corer

ments collection at TPA 1(A) was unsuccessful because of very hard rocky bottom line & anchor confirm this. We re-anchored about 150 yds. NW of TPA 1(A) about
ft. from dredge to the ...

STATION: TPA 2(A)
DATE: May 13, 1982

TPA 2 was sampled along the western side of the large spoil island north of the Alafia River Channel. The sample was specifically collected between the six northern discharge pipes approximately 150 to 175 yards waterward of mean high water. Prior to sampling we landed on the island and inspected the facilities. No water was being discharged from the wiers. In fact, sediments within the spoil (northern) site were dried and deeply cracked. Sediment, water quality and benthos sampling proceeded without any problems. Atterburg limits and physical sediments were collected with the Lexan Corer.

Samples were taken to the Bradenton Greyhound Bus station by PB, JDC, and JR.

D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
739-004

Carrell R. Hatter

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 2(A)

DATE: 5-13-82

PREVIOUS NIGHT'S WEATHER:
No rain, partly cloudy, wind from E @ 5 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
75% cloud cover, winds from E @ 5-10 knots
Air Temp. 37°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Waves 0-0.5 ft. w/surface chop; no algal blooms, no turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
6 weir discharge from island, anchored about 150 yds. away

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
AINTENANCE DREDGE STUDY
12739-004

Daniel B. Hoste

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa
STATION NUMBER: TPA 2(A)
DATE: 5-13-92

COLLECTED BY: (SIGN & DATE
JR, DH, CB, Jeff Lawton
5-13-8

WATER QUALITY Mid-depth data on table
No mid-depth because of shallow water

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	COND MOHMS	TURBID NTU
	ARRIVE: 1458	9.0'	ARRIVE: NO DATA	AM. AIR 34°C (DO) 33°C (SCT)	INITIAL:	INITIAL: 8.0			ARRIVE 15.0
	DEPART: 1720		DEPART:		FINAL: 28.0 (REF)	FINAL 8.1			DEPAR

Bottom
Sal. 32.5
D.O. 3.9
COND. 360
Temp. 24.2°C (DO)
24.9 (SCT)

Surface
Sal. 30.8
D.O. 5.2
Cond. 365
Temp. 24.5°C (DO)
25°C (SCT)

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	3 to
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	9 tot
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY 1 Atterberg, 1 for Raw

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar, Petersen Dredge

Darrell F. Arte

BENTHOS DATA FORM
Card 1

Data Set Type Benthic Grab (1-3) Date 82,05,13 (yr,mo,day) 4-9 Site ~~Port of Tampa~~ (10-11)

Station TPA 2 (A) (12-13) Sample No. TPA 2(A) (14-16) River Mile — (17-19)

Time Code EST (20) Time (21-24) Depth Units Code ft. (25)

Depth of Sample 9.0 (26-31) Investigator AC, DR, PB, JR (32-34)

Substrate Type (35-36) Coll. Dev. 9"x9" Ponar (37-38) Sieve Code (39-40)

Preservative Formalin (41-42) Meter Start — (43-49) Meter Stop — (50-56)

Time of tow min. — (57-59) Sec. — (60-61) Tide — (70)

Time Code 0 = CDT
1 = CST

Depth Units 1 = Meters
2 = Feet

R1 has 4 bottles

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Sample	Container	Subst. Type
BEN	R1	
BEN	R2	
BEN	R3	

Investigators AC, DR, PB, JR

Time stop 1710

Time start 1410

Total

Notes: Shell hash w/gray nodules of stiff clay

Prepared by Jeff Pontant Date 5-13-82

Checked by Date

STATION: TPA 3(B)
DATE: May 12, 1982

TPA 3 was collected in the vicinity of the Tampa Electric Company's Big Bend generating plant berthing and turn-around basin facilities. Water quality sampling was momentarily interrupted by a tug and barge combination leaving the TECO facilities. During the departure maneuvers the barge was dragging its anchor. Turbidity readings prior to passing was 14.5 NTU. After passing the NTU sample registered 20.0. Sediment sampling was not impacted by the barge's passing. The lexan Corer collected a very interesting sample that displayed four distinct zones of varying colors. The zones consisted of; top to bottom: 7.5" of dark grey-black silty sand; 3.5" of light grey silty clay; 2.0" of olive green clay; and, 1.0" of dark grey silty sand.

Samples were taken to the Tampa Greyhound Bus station by PB, JDC, and JR.

D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
1739-004

Darrell A. Harter

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Tampa Bay

STATION NUMBER: TPA 3(B)

DATE: 5-12-82

PREVIOUS NIGHT'S WEATHER:
Clear, no rain, winds from E @ 5 or less knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
Air Temp. 26°C ~~0% cl~~ no cloud cover some haze and effluent from TECO stacks (localized), winds E-SE less than 5 knots

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
no waves, very slight surface chop, no algal plumes, no turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): Two barges are ~~anchore~~ moored @ TECO docks w/ tug assist some movements around dock. Tug with barge forced us off station we returned and finished sampling.

GENERAL COMMENTS:

D.ER. PORTS AND HARBORS
AINTENANCE DREDGE STUDY
12739-004

Darrell R. Hoster

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Tampa Bay

STATION NUMBER: TPA 3(B)

COLLECTED BY: (SIGN & DATE
PB, JR, DH, Jeff Contrai
5-12-82

DATE: ~~5-12~~
5-12-82

3rd Bottle of BOD sample was taken after re-stationing and was visibly different from the first two which were on original sta

WATER QUALITY Note: Bottom, Mid, Surface data
Mid depth noted in Table (2ND Turbidity Reading was
bottle passed & use re-stated

BOTTOM
Temp. 24.8°C
D.O. 4.0
pH 26.2
Cond. 340

SURFACE
Temp. ~~24~~ 25.0°C
D.O. 5.2
pH 28.0
Cond. 370

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	CONDO MOHMS	TURBIDI NTU
	ARRIVE: 1025 DEPART: 1225	30'	ARRIVE: NO DATA DEPART:	24° C	INITIAL: (SET) 28.0 28.0 (REF) FINAL: 27.0 REF	INITIAL: 8.0 FINAL 8.0	4.2 ~~4.2~~	370	ARRIVE #1 14.5 #2 20 DEPAR

CHECK WHEN COLLECTED:	REPLICATE 1	2	3	
METALS (3.2.3)	✓	✓	✓	} 6 tota
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	—	—	—	no amm
PESTICIDES (3.2.7)	✓	✓	✓	
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY 1 Atterberg, 1 for Fauna

CHECK WHEN COLLECTED:	REPLICATE 1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

Sediment is black silty fine sand w/ petroleum sheen, H_2S O

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar, very gelatinous

R&R LOG
1.0' of dark gray silty sand
2.0' of olive green clay or SCL
3.5' light green silt with shell

7.5' of dark gray-black silty sand
R-22 very odiferous

STATION: TPA 4(B)
DATE: May 12, 1982

Station TPA 4 was established in the Alafia River immediately adjacent to Gardinier, Inc's phosphate loading dock and turn-around basin. Upon arrival at the station a crew was spray painting some dockside loading equipment (paint was evident on the water's surface throughout the area). By the time we had located our sampling station and anchored no surface borne paint was noted. Additionally, the painting was suspended by the crew while we were sampling. No problems were encountered during the sampling procedure (this was the station that took the least amount of time to complete).

Samples were taken to the Tampa Greyhound Bus station by PB, JDC, and JR.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

Darrell F. Hartes

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 4(B)

DATE: 5-12-82

PREVIOUS NIGHT'S WEATHER:

Clear, no rain, winds from E @ 5 knots or less

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):

15% cloud cover, wind from E @ 5 knots or less
34° C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

No waves some surface chop, no algal plumes, no turbidity plumes, no foaming, some debris (organic) in water

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):

No outfalls
No ships berthed

GENERAL COMMENTS:

Some kind of white slick on water also a white scum looks like paint

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

Daniel R. Hute

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 4(B)

DATE: 5-12-82

COLLECTED BY: (SIGN & DATE)
DB, TR, DH, Jeff Constant
5-12-82

WATER QUALITY Mid depth in table

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	COND µMHMS	TURBIDITY NTU
	ARRIVE: 1337 DEPART: 1450	30.0	ARRIVE: NO DATA DEPART:	Am. Air 34° water 24° C 25°C (BOT)	23.0 (REF) INITIAL: ~~25.0 (REF)~~ ~~24~~ 25.0 FINAL: 28.0 (REF)	INITIAL: 7.8 FINAL 8.0	2.2	369	ARRIVE: 9.0 DEPART:

TOM
~~6.2~~ 25.0
370
~~1.6~~ 2.0
25°C

face
24.5
360
5.8
25.5°C

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3
METALS (3.2.3)	✓	✓	✓ } 6 total
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	—	o —	no ammonia
PESTICIDES (3.2.7)	✓	✓	✓
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 8" x 9" Ponar, Petersen Dredge
Sediment is black to dark gray fine silty sand w/a petroleum, sulfur, H_2S odor

STATION: TPA 5(B)
DATE: May 13, 1982

Station TPA 5 was situated approximately 475' waterward of mean high water, locating the station 200' from the mouth of the spoil island discharge pipes. The boat was anchored due north of the third pipe from the east (there were 6 pipes). Prior to sampling we visited the island and spoke to the island's superintendent, Ms. Mel. At the time there was approximately 3.0" of water passing over the weir boards. No problems were encountered during sampling. The Lexan corer was employed to collect Atterburg limits and physical sediments.

Samples were taken to the-Bradenton Greyhound Bus-station by PB, JDC, and JR.

Darrell R. Bates

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 5(B)

DATE: 5-13-82

PREVIOUS NIGHT'S WEATHER:

No rain, partly cloudy, wind from E @ 5 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):

75% cloud cover, wind from E-SE @ 10 knots gusting to 15, Air Temp. 27° C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

Wave height ~~EF~~ 1-2' ft. moderate chop, no foaming, no algal plumes, no turbidity plumes

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):

6 outfalls discharging from the inside of the spoil island, they extend ~~25~~ 275' from the shore

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
AINTENANCE DREDGE STUDY
12739-004

Daniel Robertson

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 5(B)

DATE: 5-13-82

COLLECTED BY: (SIGN & DATE

PB, JR, DZ, Jeff Ferrite
5-13-82

WATER QUALITY Data on table is mid-depth

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CONDUCTIVITY MOHMS	TURBIDITY NTU
	ARRIVE: 1100 DEPART: 1255	13	ARRIVE: NO DATA DEPART:	24°C (SCT) 24.4°C (YSI)	INITIAL: 23.0 (SCT) 26.0 (REF.) FINAL: 27.0 (REF.)	INITIAL: 8.2 FINAL 8.1	5.2	350	ARRIVE 12.5 DEPART

BOTTOM
Sal. 23.5 (SCT)
D.O. 4.6
Cond. 360
TEMP. 24°C (YSI)
24°C (SCT)
~~SURFACE~~
~~Sal. 23.0 (SCT)~~
~~D.O. 5.2~~
~~Cond. 350~~
~~Temp. 24°C (SCT)~~
~~24°C (YSI)~~

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
METALS (3.2.3)	✓	✓	✓ } 6 to
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	—	•	— no ammo
PESTICIDES (3.2.7)	✓	✓	✓
*PHENOLS (3.2.8)	✓	✓	✓

SURFACE
Sal. 23 (SCT)
D.O. 5.2
Cond. 350
Temp. 24°C (YSI)
24.5°C (SCT)

SEDIMENTOLOGY | Atterberg, 1 have collected

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar,

Sediments are lt-grey to gray fine silty sand very calcareous

Darrell R. Hoste

BENTHOS DATA FORM
Card 1

Data Set Type: Benthic Grab (1-3)
Date (yr,mo,day): 82 05 13 (4-9)
Site: Tampa Bay (10-11)

Station: TPA 5 (B) (12-13)
Sample No.: TPA 5 (B) (14-16)
River Mile: (17-19)

Time Code: EST (20)
Time: 1200 (21-24)
Depth Units Code: 2 (25)

Depth of Sample: 13.0 (26-31)
Investigator: JC DN TR PB (32-34)

Substrate Type: Gray silty sand (35-36)
Coll. Dev.: 9"x9" Ponar (37-38)
Sieve Code: ~~Ha~~ 0.5 mm (39-40)

Preservative: Formalin (41-42)
~~Meter Start~~: (43-49)
Meter Stop: (50-56)

Time of tow min.: — (57-59)
Sec.: — (60-61)
Tide: — (70)

Time Code 0 = CDT
1 = CST
EST

Depth Units 1 = Meters
2 = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Investigators PB DN TR JC

Time stop 1235

Time start 1200

Total

Sample	Container	Subst. Type
BEN	R1	
BEN	R2	
BEN	R3	

Notes: Sediments are lt. gray- to dk. gray very silty sticky fine sand

Prepared by: Jeff Ponitant
Date: 5-13-82

Checked by:
Date:

STATION: TPA 6(B)
DATE: May 14, 1982

TPA 6 was sampled in East Bay due south of the shrimp fleet docks, due west of the Sea Breeze Restaurant, in the middle of the bay. All sampling proceeded smoothly. Chemical sediments were again collected with the Ekman grab. Atterburg limits and physical sediments were collected with the Lexan corer.

Samples were taken to the Tampa Greyhound Bus station by PB.

D.E.2. DEEPWATER PORTS AND
ARBORS MAINTENANCE DREDGE STUDY
2739-004

Daniel F. Santos

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 6(B)

DATE: 5-14-82

PREVIOUS NIGHT'S WEATHER:

Partly cloudy, no rain, winds from E @ 5-10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):

50% cloud cover, winds from E @ 5 knots,
Air Temp. 27°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

Wave 0-0.5 w/wind chop, no algal plumes, no turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):

One outfall on west shore about 200 yds. away
Barges + ships anchored all around

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

Darrell F. Hunter

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa
STATION NUMBER: TPA 26(B)
DATE: 5-14-82

COLLECTED BY: (SIGN & DATE
JR, DH, DR, Jeff Constantz
5-14-8

WATER QUALITY Mid-depth data on table

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	COND µMOHMS	TURBID NTU
	ARRIVE: 1140 DEPART: 1245	33'	ARRIVE: NO DATA DEPART:	AM. AIR 27.4°C (SCT) 25°C (DO) 24°C (SCT) 26°C	INITIAL: 26 (R&F) 28.9 (SCT) FINAL: 27.0 (R&F)	INITIAL: 8.1 FINAL 8.0	3.6	371	ARRIVE 4.5 DEPART

Bottom
Sal. 30.8
Cond. 372
D.O. 3.4
Temp. 24.2 (DO)

Surface
Sal. 31.0
Cond. 362
D.O. 6.9
Temp. 24.8°C (SCT)
25.4°C (DO)

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3	
METALS (3.2.3)	✓	—	—	} 6 total
BOD, F, TSS (3.2.4)	—	—	—	
NH_4 (3.2.5)	—	o	—	no amo
PESTICIDES (3.2.7)	—	—	—	
*PHENOLS (3.2.8)	✓	—	—	

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3
TS, TOC, METALS, ETC. (3.3.3)	—	—	—
PCB, PEST., O&G, PHENOLS (3.3.4)	—	—	—

SAMPLING EQUIPMENT (FILL IN): _____

STATION: TPA 7(C)
DATE: May 10, 1982

TPA 7 was sampled approximately 4.5 miles due west of Bunces Pass in the Gulf of Mexico. This particular station was designated a control station. It was to be sampled at 32ppt salinity, outside the influence of discharges from the many passes along this coast. Sampling was on an ebb tide, however, the tidal impacts were not encountered at the station.

Samples were taken to the Tampa Greyhound Bus station by DFH.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

Darrell R. Hurte

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: Tampa Bay

STATION NUMBER: Tampa 7(C)

DATE: 5-10-82

PREVIOUS NIGHT'S WEATHER:
Clear ~~partly cloudy~~, winds from E-NE @ 5-10 k

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
5%: cloud cover, wind E @ 10 knots, Air Temp. 28.5

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Seas 1'-2' and swell w/chop on surface, no algal blum
no turb. plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
No outfalls
Small small pleasure craft passing

GENERAL COMMENTS:

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

Darrie Fitzhugh

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Tampa Bay

STATION NUMBER: Tpa. 7 (c)

DATE: ~~4~~ 5-10-82

COLLECTED BY: (SIGN & DATE)
PB, DN, Jeff Constant
5-10-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	CON O. μOHMS	TURBIDITY NTU
	ARRIVE: 1130 DEPART: 1300	26'	ARRIVE: NO DATA DEPART:	29° C (AIR-DO) 24° C (BOT) 24° C (DO) 24.5° C	INITIAL: 30 (BOT) 35 (REF) FINAL: 35 (REF)	INITIAL: 6.8 FINAL 8.0	5.5	440	ARRIVE: 1.3 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	6 mat.
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	9 total
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY — NO SEDIMENTS TAKEN

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)			
PCB, PEST., O&G, PHENOLS (3.3.4)			

SAMPLING EQUIPMENT (FILL IN): _____

STATION: MAN 1(A)
DATE: May 11, 1982

MAN 1 was located in the approximate center of the Port of Manatee berthing area. Approximately 0.5 hours prior to sampling start up a large ship (tug assisted) departed the northern dock. Water quality and sediment sampling proceeded uneventfully. Visual water quality was poor due to ship movements and clam bucket dredging occurring in the southeast corner of the berth. Sediment samples were gelatinous and smelled strongly of H_2S. The sediment was of a consistency to allow use of the Lexan corer.

Samples were taken to the Bradenton Greyhound Bus station by PB, JCD, and JR.

Carrie Hatter

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: Port of Manitee

STATION NUMBER: Man. 1(a)

DATE: 5-11-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy, no rain, winds from S-SE @ 5-10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
Winds from E @ 3-8 knots, Air Temp. 29°C, 3% cloud cover

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
0-0.5' ft. chop, no algal plumes, no turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
2 outfalls @ the West end of the port, large ship docked on the south side w/ a clam shell digging @ the SW end of the port. Large ship just left dock about 1300 w/ tug assist.

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
AINTENANCE DREDGE STUDY
12739-004

Cannell Pt

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Manatee

STATION NUMBER: Man. 1(A)

DATE: 5-11-82

COLLECTED BY: (SIGN & DATE
PR, DR, JR, [illegible]
5-11-

WATER QUALITY Note: Bottom, Mid, Surface Data Bottom 35 (YSI)

		TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	MID DEPTH D.O.	CONDUCTIVITY MOHMS	TURBIDITY NTU
SURFACE temp. 25.5°C, S. 37.5 (YSI), Cond. 430		ARRIVE: 1310	32.0	ARRIVE: NO DATA	Am. AIR 24.5°C	INITIAL: 37.0 (SCT)	INITIAL: 7.9	4.6	430	ARRIVE: 8.1
Bottom S. 35 (YSI), Cond. 420, temp. 25°C		DEPART: 1448	36.0	DEPART:	25°C (BO) 27°C	33.0 (RCF) FINAL: 34.0 REF	FINAL 7.8		Bottom 420	DEPART

No DO taken on Bottom + Mid

CHECK WHEN COLLECTED: (YSI) BOT. 25°C REPLICATE 1 2 3

	1	2	3
METALS (3.2.3)	✓	✓	✓ } 6 t
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	✓	✓	✓
PESTICIDES (3.2.7)	✓	✓	✓ } 9 t
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY 1 Atterberg, 1 Lab

CHECK WHEN COLLECTED: REPLICATE 1 2 3

	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar Rovan Cover

H_2S Odoriferous, black + gray silty sand

STATION: MAN 2(B)
DATE: May 11, 1982

MAN 2 was collected in the Port Manatee Main Channel immediately adjacent to the large spoil island located on the south side of the channel. Water quality and sediment sampling proceeded smoothly. The sediment was extremely dark and gelatinous with strong odor of H_2S. Due to the nature of the sediments we were able to employ the Lexan corer. During sampling tug and small boat traffic was almost continuous.

Samples were taken to the Bradenton Greyhound Bus station by PB, JDC, and JR.

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

Darrell F. Horton

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port Manatee
STATION NUMBER: Man. 2(13)
DATE: 5-11-82

COLLECTED BY: (SIGN & DAT
PB, DH, Jeff Capitani
5-11-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	COND MOHMS	TURBI NT
	ARRIVE: 1055	33.0'	ARRIVE: NO DATA	Am. Air 24.5°C	INITIAL: 36.5 (SCT)	INITIAL: 6.6	5.4	420	ARRI 7.5
	DEPART: 1242 ~~1235~~		DEPART:	25.°C (SCT) 24.5°C (DO) 25.0°	34.0 (RCT) FINAL: 35.0 (RCT)	FINAL 6.6			DEPA

CHECK WHEN COLLECTED: REPLICATE 1 2 3

METALS (3.2.3)

BOD, F, TSS (3.2.4)

NH_4 (3.2.5)

PESTICIDES (3.2.7) ✓ ✓ ✓ } 6

*PHENOLS (3.2.8) ✓ ✓ ✓

SEDIMENTOLOGY 1 sample for Atterburg, 1 sample for Chem

CHECK WHEN COLLECTED: REPLICATE 1 2 3

TS, TOC, METALS, ETC. (3.3.3) ✓ ✓ ✓

PCB, PEST., O&G, PHENOLS (3.3.4) ✓ ✓ ✓

K. Core tube liner noted @ bottom of gray ing w/ 8" of black silty fine sand @ top

SAMPLING EQUIPMENT (FILL IN): 9x9" Ponar, Teflon Cover

High H_2S odor from sediment
Black to gray fine silty sand, w/ petroleum sheen

D.E.R. DEEPWATER PORTS AND
ARBORS MAINTENANCE DREDGE STUDY
2739-004

Carrell F. Horton

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: ~~Tar~~ Port of Manatee

STATION NUMBER: Mon 2(B)

DATE: 5-11-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy, no rain wind from E-SE @ 5-10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
No cloud cover, Winds S-SE @ 5-8 knots
Air Temp. 26°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Waves 0-0.5', no algal blooms, no turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
No outfalls
Tug traffic in channel and small pleasure craft.
2 tugs back + forth through the channel about 6 times

GENERAL COMMENTS:

STATION: JAX 1(B)
DATE: April 30, 1982

JAX 1(B) was originally designated a control (c) station, however, it was made a baseline. It was required that the station be sampled where the salinity was 5ppt or less. This was accomplished in the northeast end of the Goodby's Lake, a wide area of the St. John's River immediately downstream from downtown. Sampling proceeded smoothly for water quality and sediments. The sediment was a medium to fine brown sand containing flat platelike flecks of a black material.

Samples were taken to the Greyhound Bus station by JDC and DFH.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. Johns River

STATION NUMBER: Jax. 1 (B)

DATE: 4-30-82

PREVIOUS NIGHT'S WEATHER:
Heavy overcast, scattered rain, winds NE 10-20 knots, Temp. 55° F

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
95 % cloud cover, wind NE, 15 knots gusts to 20, air temp. 70° F

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Wave height 1"-2" w/a windy chop
No algal plumes or turbidity plumes, some slight foaming from wave action. Sampling on an out-going tide

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
~~1 sailboat~~ Several small pleasure craft, barge crossing 250 yds. away from Jax. 1(B)
~~Tugboat~~

GENERAL COMMENTS:

.D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. Johns River

STATION NUMBER: Jax. 1 (B)

DATE: 4-30-82

COLLECTED BY: (SIGN & DATE

PB, GH, Jeff Constant 4-

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	COND µMOHMS	TURBIDITY
	ARRIVE: 1132	10.0'	ARRIVE: NO DATA	22°C (SCT) 22°C	INITIAL: 40 REF 5.5 SCT	INITIAL: 7.3	7.4	60	ARRIV 11.5
	DEPART: 1343		DEPART:	22.5°C (DO)	FINAL: 5.0 REF	FINAL 7.3			DEPA

CHECK WHEN COLLECTED:	REPLICATE 1	2	3
METALS (3.2.3)	✓	✓	✓ } 3 oz 1 oz
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	✓	✓	✓
PESTICIDES (3.2.7)	✓	✓	✓
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY

CHECK WHEN COLLECTED:	REPLICATE 1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

Physical sediment taken w/ K. Corer.
2 Atterberg Samples also taken using Lexan Corer

SAMPLING EQUIPMENT (FILL IN): 9" X 9" Ponar
Lexan Corer

BENTHOS DATA FORM
Card 1

Data Set Type Benthic grab (1-3) Date 1982 04 30 (yr,mo,day) 4-9 Site Jax. 1(B) (10-11)

Station Jax. 1(B) (12-13) Sample No. Jax. 1(B) (14-16) ~~River Mile~~ (17-19)

Time Code Eastern Stan. Time (20) Time (21-24) Depth Units Code (25)

Depth of Sample 10.0 (26-31) Investigator JC, PB, DH (32-34)

Substrate Type Med. Fine Sand (35-36) Coll. Dev. 9"X9" PONAR (37-38) Sieve Code #35 (.5mm) (39-40)

Preservative Formalin (41-42) ~~Meter Start~~ (43-49) ~~Meter Stop~~ (50-56)

~~Time of tow min.~~ (57-59) ~~Sec.~~ (60-61) ~~Tide~~ (70)

Time Code 0 = CDT
~~1 = CST~~
EST

Depth Units 1 = Meters
2 = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Sample	Container	Subst. Type
BEN	R_1	
BEN	R_2	
BEN	R_3	

Investigators JC, DH, PB

Time stop 1240

Time start 1315

Total

Notes: Med to Fine sand ~~black~~ brown w/black flecks

Prepared by Jeff Constant Date 4-30-82

Checked by Bruce E. Hoste Date 4/30/82

STATION: JAX 2(A)
DATE: April 29, 1982

JAX 2 was established beneath the north center portion of the Commadore's Point Bridge. Samples were collected upstream from the center (north) pylon. Water currents were extremely swift, estimated to be approximately 5.0 knots. Problems with deploying the sampling gear were anticipated, however, ebbying currents allowed our equipment to hang almost vertically in the water column. Water quality sampling proceeded in an orderly fashion. Sedimentolgy had to be collected with ponar because the Lexan corer would not penetrate the sandy substrate. The sediment was a medium-fine silty sand containing large portions of woody (wharfing?) material. Weather-wise this was the worse day encountered. Winds gusted to 25 mph from the northeast. The temperature was approximately 62°F with rain.

Samples were taken to the Greyhound Bus station by JDC and DFH.

The morning was spent talking to Dan Leininger, JPA, concerning his preferred location of JAX 3(A) and other stations. Sample bottles were also gotten from the bus station.

D.E.R. DEEPWATER PORTS AND
ARBORS MAINTENANCE DREDGE STUDY
2739-004

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. John's River (Commodores Point Bridge - Northside of Channel)

STATION NUMBER: Jax. 2A

DATE: 4-29-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy to complete cloud cover
10 knot breeze from NE
No rain but threatening

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
Total cloud cover, some spitting rain ~~east~~ of and on and continuously threatening. Wind from NE at 10-20 knots some gusts to 25
Air Temp. 21°C
Begin raining at 1647 (Weather constantly worsening rain + wind)

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
0.5"-1.0' wind chop. Strong upstream current. No algal plumes No turbidity plumes. Foaming present probably due to wave action. Surface action on water around bridge piling (5 knots) indicating a rushing current. Water is very dark w/a lot of suspended materials.

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): Very large barge docked 250 yds. from Jax. 2A Tugboat activity, 4 total crossings about 175 to 200 yds. away. 2 small sailboats crossed within 100 yds. No notice of any outfalls

GENERAL COMMENTS:
Sub-surface seems calmer (per ponar release) than surface as far as current?
Several different odors present, fumes from bridge, and odors from various loading facilities. Abundant organic materials such as leaves, stems and no wood flowing in current

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

DEP

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. Johns River (Commodores Point Bridge-Nor in Char

STATION NUMBER: Jax. 2A

COLLECTED BY: (SIGN & DATE

DATE: 4-29-82

Jeff Constant, PB, DEP 4-29-8

28.0' Water Depth

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CONDO MOHMS	TURBIDITY NT
	ARRIVE: 1550 DEPART: 1807	28.0'	ARRIVE: NO DATA DEPART:	22°C (DO) 22°C (SCT) 18°C	INITIAL: 9.0 (SCT) 6.0 (REF) FINAL: 4.0 REF.	INITIAL: 7.2 FINAL 8.0 CORNING 7.8 (AMI)	6.0	85	ARRIV 11.0 DEPA

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	3 ea sample
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	9 to col
*PHENOLS (3.2.8)	✓	✓	✓	3 a

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

~~No Atterberg samples taken due to very sandy, sea~~ both

SAMPLING EQUIPMENT (FILL IN): ~~#~~ 9"x9" Ponar

Atterberg sample is somewhat different than the sediment sa
Atterberg is silty fine sand

STATION: JAX 3(A)
DATE: April 30, 1982

Joe Ryan, DER, has come aboard to assist and observe sampling. JAX 3, as designated and described by Mr. Dan Leininger, JPA, is immediately adjacent to the JPA's Tallyrand Docks. The station was specifically located in the vicinity of an STP outfall. Sampling proceeded smoothly in spite of the close proximity and frequency of tug and barge traffic. Visual water quality was poor - the water being dark chocolate brown. The sediments were extremely dark and smelled of petroleum. An oil sheen was observed on the sediments. The consistency of the sediments was quite gelatinous with much clay and silt. During sampling the odor of the STP outfall was frequently noticed (it wasn't the plant because the winds were from the Northeast and the plant was west of us).

The samples were taken to the Greyhound Bus station by JDC and DFH.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jax. 3 (A)

DATE: 4-30-82

PREVIOUS NIGHT'S WEATHER:
Heavy overcast w/scattered showers, wind NE 10-knots, Temp. 55° F

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
80% cloud cover - partly sunny, winds 15-20 knots gusts to 25 from the NE. Air temp. 22° C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Wave height 1-2' ft. w/wind chop, no algal plume or turbidity plume, some foaming due to wave action or de Current is ~~slide~~ slight, tide is probably on turning back and current is picking up

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.):
Very large ship docked 225 yds. ~~up~~ downstream (Not Sewage outfall within 50 ft. of this station Jax. it is not visible but under surface of water. Boat traffic includes small pleasure vessels, tugboats
Above mentioned ship left dock. Another large ship on incoming tide.

GENERAL COMMENTS:
Some sewage odor

Large ship anchored in channel 1/2 mile from Jax. 3 (A)
Large petroleum ship (250 ft.) passed within 75-100 yds. of Jax. 3 (A)

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jax. 3 (A)

DATE: 4-30-82

COLLECTED BY: (SIGN & DATE)
PB, DH, and Jeff Constant
4-30-82

Water depth 34.0'

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CONO MOHMS	TURBIDITY NTU
	ARRIVE: 1450 DEPART: 1720	33'-34'	ARRIVE: NO DATA DEPART:	21.5° C (DO) 21.0° C 22.0 °C SCT	INITIAL: 15.0 REF. 17.0 SCT FINAL: 15.0 REF.	INITIAL: 7.5 FINAL 7.1	5.2	190	ARRIVE: 9.1 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	3 additional bottles 6 total
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	3 additional bottles 9 total
*PHENOLS (3.2.8)	✓	✓	✓	

bottom recovery w/ Lexan cover there was a visible petroleum sheen in
mple and a strong odor of Petroleum. Lexan cover had good recovery

SEDIMENTOLOGY in this silty black to dark green sediment

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

and 1 rep. for sediment grain size w/ Lexan Cover
~~rep.~~ for Atterberg w/ Lexan Cover

SAMPLING EQUIPMENT (FILL IN): 9" X 9" Ponar
Lexan Cover for Atterberg + grain size

rgboat sitting about 75 yds. from Jax 3(A) during * 1 replicate sediment
ample.

STATION: JAX 4(B)
DATE: May 1, 1982

JAX 4 was located within the berthing area of a phosphate loading terminal at the confluence of Long Branch and the St. John's River in the Chasevile Turn. Sampling proceeded smoothly with no gear failures or complications. Visual water quality was poor - the water was a dark brown with visual suspended material. The sediments were grey in color and varied in composition. A mix of clay and silt was encountered in addition to a hard shell-hash bottom. A number of ponar grabs were discarded because of incomplete closure of the jaws. Long Branch, entering the berthing area from the northwest, drains a fairly large section of urban buildup and undoubtedly contributes to the deposition of silts and other sediments in the berth area and the St. John's River.

The samples were taken to the Greyhound Bus station by JDC and DFH.

D.E.R. DEEPWATER PORTS AND
ARBORS MAINTENANCE DREDGE STUDY
2739-004

JJT

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. Johns River

STATION NUMBER: Jax. 4(B)

DATE: 5-1-82

PREVIOUS NIGHT'S WEATHER:
Mostly cloudy, winds from NE @ 10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
~~35%~~ 50% cloud cover, wind from SE ~~5 to knots~~ 0 gusting to 10. Air Temp. 24°C.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Wave 0'-1' w/some wind chop, no algal plumes or turbidity plumes, some foaming present. Floating debris passing by.

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): Large ship dock at phos. term. 40-50 yds away from Jax. 4(B) also 5 large ships anchored in Channel (Chaseville Turn) 2 large ship passing in channel

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. Johns River

STATION NUMBER: Jax. 4 (B)

DATE: 5-1-82

COLLECTED BY: (SIGN & DATE

PB, DH, JR, [illegible]
5-1-82

Water Depth 35.0'

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	CONDO MOHMS	TURBID NTU
	ARRIVE: 1147	35.0'	ARRIVE: NO DATA	24.0° C 23.0°C SCT	INITIAL: ~~170~~ REF. 20.0 " 26.0 SCT	INITIAL: ~~5.6~~ 7.0	5.6	260	ARRIV 11.5
	DEPART: 1320		DEPART:		FINAL: 19.0 REF.	FINAL ~~8.5~~ 8.0			DEPAI

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3
METALS (3.2.3)	✓	✓	✓ } 6 x for
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	—	—	— ?
PESTICIDES (3.2.7)	✓	✓	✓
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

	REPLICATE 1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

Sediment is silty and smells of sewer (Black to dark green) very ge
typical sed. sample taken
attribug taken

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar Repair Cover

Some samples taken w/Ponar were rejected because of quantity, Shelly clayey material was present inhibiting the Ponars recovery ability. Very hard

STATION: JAX 5(B)
DATE: May 1, 1982

JAX 5 was sampled in mid-channel (Trout River Cut Range) at the confluence of the Trout River and the St. John's River. Sampling was aggravated by swift currents. Because of the scope of the sample line the sample was collected at a depth of 14.0' rather than the required mid-depth of 20.0'. Water color was again quite dark on an outgoing tide. Sediments were fairly well packed necessitating the employment of a ponar for the Atterburg limits and physical sedimentology sampling.

Samples were taken to the Greyhound Bus station by JDC and DFH.

D.ER. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jox. 5(5)

COLLECTED BY: (SIGN & DATE

DATE: 5-1-82

PB, DH, JR, Jeff Coast 5-1-82

* Pumping clamp is not sufficiently weighted to hold clamp perpendicular to surface, it is at about 45°. Sample taken @ abo 4.0 instead of 20.0 which is mid-depth

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	COND MOHMS	TURBID NTU
	ARRIVE: 1328	40	ARRIVE: NO DATA	21° C (SCT)	INITIAL: 20.0 REF.	INITIAL: 8.0	5.4	220	ARRIV 11.0
				21° C (DO)	22.0 SCT				
	DEPART: 1525		DEPART:	~~21~~ C 22	FINAL: 16.0 REF.	FINAL 8.0			DEPA

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
* METALS (3.2.3)	✓	✓	✓	3 with bott
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	—	—	—	no NH_4
PESTICIDES (3.2.7)	✓	✓	✓	
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

1 Atterberg
1 grain size sample

SAMPLING EQUIPMENT (FILL IN): 9"x 9" Ponar

Tried Kepan Corer unsuccessfully

D.E.R. DEEPWATER PORTS AND
ARBORS MAINTENANCE DREDGE STUDY
2739-004

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. John's River

STATION NUMBER: Jop. 5(B)

DATE: 5-1-82

PREVIOUS NIGHT'S WEATHER:
Mostly cloudy, wind from NE at 10 knots

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
Air Temp. 26°C; 25-30% cloud cover, Wind from due East at 10 knots gusts to 15. Wind picked up to 15-20 knots w/seas increasing slightly.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Waves 0'-1.5' w/wind chop, no algal plumes or turbidity plumes, no foaming. Current very strong @ 3 knots

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): No outfalls, small boats passing more or less continuously, 4 tugboats

GENERAL COMMENTS:

STATION: JAX 6(A)
DATE: May 2, 1982

JAX 6 was sampled adjacent to the discharge weirs on the northeast side of Quarantine Island, a designated spoil disposal site. Dunn Creek's confluence with the St. John's River is immediably northeast of the sample site. Sampling was conducted 80-100 yards due east of the four discharge pipes (the pipes were discharging during the sampling). During reconnaissance of the sample site the outboard motor disturbed the bottoms requiring us to move downstream for approximately 45 minutes to allow the area to restabilize (final sample collection was conducted waterward of the disturbed area). Sampling proceeded quite smoothly, however, the electric winch gave up on us requiring hand retreival of all sampling equipment. Due to the compact nature of the sediments the Lexan corer was nonfunctional, necessitating the use of the ponar for Atterburg limits and physical sedimentology sampling. Because everyone in the crew was tired and sunburned and we anticipated a very long day on Monday, May 3, JAX 6 was the only station sampled.

Samples were taken to the Greyhound Bus station by JDC and DFH.

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

CRF

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jox. 6 (A)

DATE: 5-2-82

COLLECTED BY: (SIGN & DATE)
PB, DH, JR, Jeff Contant
5-2-82

Water depth 10.0'
Sample taken @ mid-depth

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY °/oo	pH	D.O.	CON O MOHMS	TURBIDITY NTU
	ARRIVE: 1300 DEPART: 1515	10.0'	ARRIVE: NO DATA DEPART:	22.5° C (PO) 23.0° C (SCT) ~~25~~ C 24.5	INITIAL: 17 REF. 18 SCT FINAL: 16 REF.	INITIAL: 7.8 FINAL 7.8	~~6.0~~ 5.5	240	ARRIVE: 17.0 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
METALS (3.2.3)	✓	✓	✓ } 3 addition bottles
BOD, F, TSS (3.2.4)	✓	✓	✓
NH_4 (3.2.5)	✓	✓	✓
PESTICIDES (3.2.7)	✓	✓	✓ } 9 ~~total~~ bottles
*PHENOLS (3.2.8)	✓	✓	✓

SEDIMENTOLOGY 2 (1/2 + 2/2) mason jars used for #3 rep. of sediments sample

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

Sediments are med.-fine lt. tan sand w/some nodules of clay

SAMPLING EQUIPMENT (FILL IN): 9"x9" Ponar, Ekman Corer

Ekman Corer was ineffective in this sandy sediment

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

CPY

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. John's River

STATION NUMBER: Jax. 6(A)

DATE: ~~4~~ 5-2-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy, 55°F, Wind from E @ 15-20 knots
No rain

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
50 ~~75%~~ cloud cover, winds from SE @ 5 knots, 10 gusting
29°C @ 1145 A.M.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
0-0.5' wave height, no algal plumes, no turbidity plumes, some insignificant foaming. Current running out (downstrea

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): Small pleasure boats passing more or less continuously. 4 drainage pipes discharging 100 yds from Jax. 6(A). 6 Tugboats assist 2 large ships 1 in + 1 out also a large tug pulling a barge

GENERAL COMMENTS:

BENTHOS DATA FORM
Card 1

Data Set Type Benthic (1-3) | Date (yr,mo,day) 1982 05 2 (4-9) | Site Jay. 6 (A) (10-11)

Station Jay. 6 (A) (12-13) | Sample No. Jay. 6 (A) (14-16) | ~~River Mile~~ (17-19)

Time Code Eastern Standard (20) | Time (21-24) | Depth Units Code 2 (25)

Depth of Sample (26-31) | Investigator DH, PB, JC, JR. (32-34)

Substrate Type (35-36) | Coll. Dev. (37-38) | Sieve Code #35 1.5 mm (39-40)

Preservative Formalin (41-42) | Meter Start — (43-49) | Meter Stop — (50-56)

Time of tow min. — (57-59) | Sec. — (60-61) | Tide — (70)

Time Code 0 = CDT
1 = CST

Depth Units 1 = Meters
2 = Feet

Data Set Type BEN = Benthos Bottom Grabs
DBN = Drifting Benthos

Investigators PB, JC, DH, JR

Time stop

Time start 1430

Total

Sample	Container	Subst. Type
Ben	R1	
Ben	R2	
Ben	R3	

Notes: 1 sample is different (the last) from the other two. Fine and yellow sediment also odoriferous (H_2S) compared to med. fine and (clean)

Prepared by Jeff Courtney Date 5-2-82

Checked by Date

STATION: JAX 7(A)
DATE: May 4, 1982

JAX 7 was located at the confluence of the western Blount Island Channel entrance and the St. John's River in a segment of the river known as the Dames Point Turn and Dames Point - Fulton Cutoff Range. Sampling was conducted during a strong ebbing tide. Water chemistry sampling was not adversely impacted by the current, however, deployment of the ponar was quite difficult. Sediment sampling was delayed approximately 1.5 hours so that a vertical drop of the ponar could be obtained. The bottom was well scoured and composed of large grain sand and pebbles. Sample collection was hindered by incomplete closure of the ponar jaws on numerous occasions. Only one replicate was collected due to the substrate composition. Repeated deployment of the ponar proved unsuccessful, so only one replicate was obtained for analysis. The Lexan corer was not used due to the substrate composition.

Samples were taken to the Greyhound Bus station by JDC and DFH.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. John's River

STATION NUMBER: Jax. 7(A)

DATE: 5-4-82

PREVIOUS NIGHT'S WEATHER:
Wind from E @ 10 MPH, 5-10% cloud cover, no rain

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
10% cloud cover, winds from E @ 5-10 knots
Air Temp. 28°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Waves 0-0.5', no algal plumes, no turbidity plumes, no foaming. Current fairly strong w/ outgoing tide (current 2 knots)

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): 2 large ships docked due East about 300 yds. away some tug activity near the ships Small boat activity, a dredging outfit passed within 100 yds. (not dredging), 1 large ship docked 400 yds E w/ tug assist.

GENERAL COMMENTS:

D.E.R. PORTS AND HARBORS
AINTENANCE DREDGE STUDY
12739-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: ST. JOHN'S RIVER

STATION NUMBER: JAX 7(A)

COLLECTED BY: (SIGN & DATE

DATE: 5-4-82

DFH, PR, JC 5/4/82

Water Depth 28'

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	COND µMOHMS	TURBID NTU
	ARRIVE: 1200 DEPART: 1440	28'	ARRIVE: NO DATA DEPART:	22.5° SCT 22°C (D.O.) 23°C	INITIAL: 20.‰ SCT 17‰ FINAL: 16‰	INITIAL: 8.2 FINAL 8.2	5.2	240	ARRIV 11.5 DEPAR

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	6
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	
*PHENOLS (3.2.8)	✓	✓		✓

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)	✓	✓	✓
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	✓	✓

SAMPLING EQUIPMENT (FILL IN): _____

STATION: JAX 8(B)
DATE: May 3, 1982

JAX 8 was collected in the main channel due north of an area known as Buck Island. Sampling was hindered by a swift ebbing tide. Water quality sampling was achieved at mid-depth even though a large amount of sample tubing was payed out. Sediment sampling was virtually impossible due to a scoured, large grain substrate. Repeated attempts were made, using the ponar, to collect sufficient sediment material. The sampling boat was moved to a number of locations, within the immediate vicinity, in the main channel in an attempt to collect sufficient sample. We were not able to get enough material so we went with one replicate. A discussion was held weighing the merits of sampling outside the channel or moving upstream or down. I decided that since this was a designated sampling station and the information that we obtained was important, we would retain the one replicate and collect no more sample. For future reference we did collect an exploratory sediment sample upstream at the confluence of the eastern entrance of the Blount Island Channel and the St. John's River. The sediments were composed of pebble and large-grain sand particles.

F.D.E.R. DEEPWATER PORTS AND
HARBORS MAINTENANCE DREDGE STUDY
12739-004

CPH

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. Johns River

STATION NUMBER: Jax. 8(B)

DATE: 5-3-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy w/winds from E @ 5-10 knots, no rain.

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
Wind from NE about 15 knots, 5% cloud cover
Air Temp. 25°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
Waves 1'-2' w/surface chop, current strong @ 4 knots
no algal plumes or turbidity plumes, no foaming

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): Outfall S, from Jax. 8(B) about 300 yds. not discharging at the moment.
Barge w/tug assist passing within 100 yds.

GENERAL COMMENTS:

ER. PORTS AND HARBORS
NTENANCE DREDGE STUDY
39-004

DBF

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jax. 8 (B)

DATE: 5-3-82

COLLECTED BY: (SIGN & DATE)
PB, DH, JR, Jeff Coupart
5-3-82

Water Depth 35'

WATER QUALITY Current very strong w/rope hanging about 45°. Sampling @ 7-10 ft.

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	COND MOHMS	TURBIDITY NTU
	ARRIVE: 1352 DEPART: 1600	35.0'	ARRIVE: NO DATA DEPART:	22°C (DO) 23°C (SCT) 22°C	INITIAL: 15.5 (SCT) 18 REF. FINAL:	INITIAL: 7.7 FINAL	5.4	235	ARRIVE: 9.5 DEPART:

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	6 total
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	—	—	—	no ammonia
PESTICIDES (3.2.7)	✓	✓	✓	
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY Where boat had originally settled it was impossible to retrieve a sample. We will swing around some to try again!

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
TS, TOC, METALS, ETC. (3.3.3)	✓	—	—	only 1 rep
PCB, PEST., O&G, PHENOLS (3.3.4)	✓	—	—	

Only one successful grab of 9 gave us 1 replicate. Bottom is very w/rock and shell. Only sample collected for new settling test

SAMPLING EQUIPMENT (FILL IN): 9X9" Ponar

Look 1 ponar sample upstream from Jax. 8(B) approx. 1 mile just to see bottom compared w/ Jax. 8(B) (Mud-Fine Lt. Tan sand

STATION: JAX 9(C)
DATE: May 3, 1982

JAX 9 was established as a high end point salinity control station (32ppt). The sampling plan was to find water of 32ppt and collect the sample. We sampled JAX 9 during an ebb tide. At first we traveled south along Manhattan Beach but could not find 32ppt and we were worried that the sample would be influenced by the St. Johns River. We then proceeded north of the river and found water of 31.5 - 32ppt and collected the sample. We went to the depth we considered maximum for mid-depth sampling (43') and collected the sample. Sampling proceeded smoothly due to relatively smooth seas and little current influence. No sediment samples were collected due to the station designation, however, sediment retrieved with the anchor was dark black and fine with a definite H_2S odor.

Samples were taken to the Greyhound Bus station by JDC and DFH.

CEF

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/ HARBOR NAME: St. Johns River

STATION NUMBER: Jox. 9 (c)

DATE: 5-3-82

PREVIOUS NIGHT'S WEATHER:
Partly cloudy with winds from E @ 5-10 knots, no rain

METEOROLOGICAL CONDITIONS ON STATION (TO INCLUDE: AMBIENT AIR TEMP., % CLOUD COVER, WIND DIRECTION, WIND SPEED, ETC.):
10% cloud cover, winds from ~~so.~~ SE @ 5-10 knots
Air Temp. 27°C @ 1204

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE HEIGHTH, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):
1-2' ft. wind chop on surface w/ 2'-3' swells, no algal plumes or turbidity plumes, no foaming.

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER OUTFALLS, ETC.): 3 very large ship within eyesight from ~~to~~ Jox. 9(c) up to 10 fishing/shrimping boats within sight

GENERAL COMMENTS:
Current is limited w/tide going out

D.E.R. PORTS AND HARBORS
MAINTENANCE DREDGE STUDY
12739-004

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. Johns River
STATION NUMBER: Jax. 9 (c)
DATE: 5-3-82

COLLECTED BY: (SIGN & DATE
PB, DH, JR, Jeff Conetta
5-3-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	pH	D.O.	CONDO MOHMS	TURBID NTU
	ARRIVE: 1200 DEPART: 1301	43.0'	ARRIVE: NO DATA DEPART:	19.5°C (DO) 20°C (SCT)	INITIAL: 31.5 SCT 31.5 REF. FINAL: 30.5 REF.	INITIAL: 7.8 FINAL 8.1	6.9	370	ARRIVE 3.2 DEPAR

CHECK WHEN COLLECTED:

REPLICATE	1	2	3	
METALS (3.2.3)	✓	✓	✓	3 ac 6 Ta
BOD, F, TSS (3.2.4)	✓	✓	✓	
NH_4 (3.2.5)	✓	✓	✓	
PESTICIDES (3.2.7)	✓	✓	✓	9 t
*PHENOLS (3.2.8)	✓	✓	✓	

SEDIMENTOLOGY No Sediments or Attributes

CHECK WHEN COLLECTED:

REPLICATE	1	2	3
TS, TOC, METALS, ETC. (3.3.3)			
PCB, PEST., O&G, PHENOLS (3.3.4)			

SAMPLING EQUIPMENT (FILL IN): ~~PVC Punch~~ No sampling

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E

SEDIMENT RESULTS ID. PNS 1A WOE

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	42000	49000	39000
Ag (ppm dry)	0.24	0.23	0.31
Cd (ppm dry)	0.67	0.49	0.39
Cr (ppm dry)	86	72	87
Cu (ppm dry)	14	16	12
Fe (ppm dry)	23000	21000	24000
Pb (ppm dry)	44	37	40
Hg (ppm dry)	0.41	1.8	0.62
Ni (ppm dry)	17	16	19
Zn (ppm dry)	43	37	54
TKN (ppm dry)	5200	4300	4700
TOC (ppm dry)	39000	34000	42000

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E

SEDIMENT RESULTS - Sample ID PNS 1A WOE

	Replicate Sample		
	I	II	III
Specific Gravity	2.77	2.74	2.78
Grain Size: % passing thru sieve No. 4	100	100	100
10	100	100	100
20	100	99.7	99.2
40	99.8	99.4	99.0
60	98.5	98.7	98.2
100	93.1	93.3	93.2
200	85.5	89.5	84.2
Hydrometer: % less than 0.005 mm	47	43	44
0.001 mm	32	30	34

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W

WATER RESULTS ID. PNS 1A WOE

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.03	0.03
Hg (µg/l)	0.16	0.14	0.14
Zn (µg/l)	1.3	1.4	1.1

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0

WATER RESULTS - Sample ID PNS 1A WOE

µg/liter	Replicate Sample I	II	III
Pesticides			
Mirex	<0.02	<0.02	<0.02
Toxaphene	<0.2	<0.2	<0.2
DDT	<0.01	<0.01	<0.01
Aldrin	<0.003	<0.003	<0.003
Chlordane	<0.2	<0.2	<0.2
Phenols			
2 - Chlorophenol	<1.0	<1.0	<1.0
Phenol	<5.0	<5.0	<5.0
2,4 - Dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - Trichlorophenol	<0.05	<0.05	<0.05
4 - Chloro-m-cresol	<2.0	<2.0	<2.0
2,4 - Dinitrophenol	<20	<20	<20
Pentachlorophenol	<0.05	<0.05	<0.05

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E

ELUTRIATE RESULTS ID. PNS 1A WOE

	Replicate		
	I	II	III
Al (µg/l)	3.0	4.2	3.9
Ag (µg/l)	0.03	0.02	0.02
Cd (µg/l)	0.03	0.03	0.04
Cr (µg/l)	1.5	2.5	2.7
Cu (µg/l)	0.57	0.62	0.60
Fe (ug/l)	21	20	17
Pb (µg/l)	0.38	0.42	0.37
Hg (µg/l)	0.18	0.16	0.19
Ni (µg/l)	1.7	1.9	1.9
Zn (µg/l)	3.4	3.9	4.0
TKN (mg/l)	6.0	4.2	3.9
TOC (mg/l)	4.0	4.0	5.6

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W

WATER RESULTS ID. PNS 2B W

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.02	0.02
Hg (µg/l)	<0.1	<0.1	<0.1
Zn (µg/l)	2.7	1.3	1.2

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S

SEDIMENT RESULTS ID. PNS 4 SF

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	52000	47000	42000
Ag (ppm dry)	0.11	0.09	0.14
Cd (ppm dry)	0.44	0.39	0.36
Cr (ppm dry)	70	45	57
Cu (ppm dry)	10	7.8	9.4
Hg (ppm dry)	0.14	0.12	0.19
Pb (ppm dry)	34	33	30
Ni (ppm dry)	9.6	11	14
Zn (ppm dry)	59	51	64
TKN (ppm dry)	2700	1900	1200
TOC (ppm dry)	15000	18000	9000
Oil & Grease (ppm dry)	1200	870	690

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S

SEDIMENT RESULTS - SAMPLE ID PNS 4 SF

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.62	2.57	2.53
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	100	100	100
	40	100	99.3	99.3
	60	99.4	98.3	99.3
	100	98.2	96.2	97.3
	200	96.1	95.3	94.2
Hydrometer: % less than 0.005 mm		46	51	43
0.001 mm		17	19	21

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F

WATER RESULTS ID. PNS 4 SF

	Replicate		
	I	II	III
Ag (μg/l)	<0.01	<0.01	<0.01
Cd (μg/l)	0.03	0.03	0.04
Hg (μg/l)	<0.10	<0.10	<0.10
Pb (μg/l)	0.23	0.29	0.31
Cu (μg/l)	0.62	0.58	0.71

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S

SEDIMENT RESULTS ID. PNS 5 SF

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	6400	5700	8200
Ag (ppm dry)	<0.10	<0.10	0.14
Cd (ppm dry)	0.19	0.24	0.19
Cr (ppm dry)	23	19	24
Cu (ppm dry)	1.2	1.8	1.9
Hg (ppm dry)	0.19	0.21	0.13
Pb (ppm dry)	7.3	8.4	11
Ni (ppm dry)	7.6	6.9	5.8
Zn (ppm dry)	7.8	11	9.7
TKN (ppm dry)	630	460	490
TOC (ppm dry)	2800	2400	3100
Oil & Grease (ppm dry)	130	240	190

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S

SEDIMENT RESULTS - SAMPLE ID PNS 5 SF

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.65	2.69	2.68
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	99.5	100	99.3
	40	99.4	99.0	99.2
	60	99.0	98.7	98.2
	100	91.2	90.7	91.2
	200	29.5	30.4	26.4
Hydrometer: % less than 0.005 mm		11	12	9.3
0.001 mm		3	4	4

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F

WATER RESULTS ID. PNS 5 SF

	Replicate		
	I	II	III
Ag (μg/l)	0.02	0.03	0.03
Cd (μg/l)	0.42	0.47	0.39
Hg (μg/l)	<0.10	<0.10	<0.10
Pb (μg/l)	0.43	0.56	0.43
Cu (μg/l)	1.2	1.0	0.92

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S

SEDIMENT RESULTS ID. PNS 6 SF

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	1600	2400	2100
Ag (ppm dry)	<0.10	<0.10	<0.10
Cd (ppm dry)	0.19	0.14	0.19
Cr (ppm dry)	5.4	3.9	5.9
Cu (ppm dry)	<1.0	<1.0	1.2
Hg (ppm dry)	0.03	0.08	0.04
Pb (ppm dry)	16	13	17
Ni (ppm dry)	2.9	3.2	3.2
Zn (ppm dry)	2.7	7.3	7.1
TKN (ppm dry)	680	380	220
TOC (ppm dry)	450	430	820
Oil & Grease (ppm dry)	120	86	140

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S

SEDIMENT RESULTS - SAMPLE ID PNS 6 SF

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.67	2.72	2.68
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	97.2	98.2	97.3
	40	54.1	55.7	50.2
	60	15.1	18.2	14.3
	100	1.3	3.2	1.0
	200	0.3	1.1	0.4
Hydrometer: % less than 0.005 mm				
0.001 mm				

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F

WATER RESULTS ID. PNS 6 SF

	Replicate		
	I	II	III
Ag (μg/l)	0.02	0.03	0.02
Cd (μg/l)	0.11	0.11	0.09
Hg (μg/l)	<0.1	<0.1	<0.1
Pb (μg/l)	0.29	0.24	0.32
Cu (μg/l)	0.92	1.2	0.89

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X

WATER RESULTS ID. PNS 7 X

	Replicate I	Replicate II	Replicate III
Al (µg/l)	1.8	2.1	2.0
Ag (µg/l)	<0.01	0.01	0.01
Cd (µg/l)	0.03	0.03	0.03
Cr (µg/l)	0.92	0.93	0.84
Cu (µg/l)	0.44	0.38	0.42
Fe (µg/l)	5.0	8.2	5.9
Pb (µg/l)	0.26	0.21	0.23
Hg (µg/l)	<0.10	<0.10	<0.10
Ni (µg/l)	0.70	0.74	0.68
Zn (µg/l)	3.8	2.7	2.1
TKN (mg/l)	0.37	0.27	0.41
TOC (mg/l)	3.4	3.2	2.9

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E

SEDIMENT RESULTS ID. TPA 1A WET

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	14000	16000	9000
Ag (ppm dry)	0.74	1.2	0.94
Cd (ppm dry)	1.1	2.1	1.9
Cr (ppm dry)	57	89	102
Cu (ppm dry)	120	105	140
Fe (ppm dry)	11000	14000	17000
Pb (ppm dry)	230	160	140
Hg (ppm dry)	0.31	0.39	0.33
Ni (ppm dry)	18	23	41
Zn (ppm dry)	360	504	290
TKN (ppm dry)	730	1100	1700
TOC (ppm dry)	5700	11000	14000
NH_3-N (ppm dry)	350	690	720
PO_4-P (ppm dry)	1200	1100	1100
NO_3-N (ppm dry)	1.6	1.3	1.2

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SEDIMENT RESULTS - Sample ID TPA 1A

	Replicate Sample I	II	III
Specific Gravity	2.67	2.72	2.54
Grain Size: % passing thru sieve No. 4	96.2	98.1	97.8
10	86.7	87.2	87.1
20	79.9	76.9	77.2
40	73.8	74.1	74.5
60	63.1	62.5	61.2
100	57.2	51.3	48.7
200	27.9	28.2	29.3
Hydrometer: % less than 0.005 mm	16	15	19
0.001 mm	7.2	8.3	7.9

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WT

WATER RESULTS ID. TPA 1A WET

	Replicate		
	I	II	III
Ag (µg/l)	0.05	0.03	0.04
Hg (µg/l)	0.24	0.20	0.14
Zn (µg/l)	2.7	4.5	2.9
F (mg/l)	1.0	1.0	1.0

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ELUTRIATE RESULTS ID. TPA 1A WET

	Replicate I	Replicate II	Replicate III
Al (µg/l)	1.2	3.2	2.9
Ag (µg/l)	0.11	0.09	0.08
Cd (µg/l)	0.06	0.06	0.05
Cr (µg/l)	2.1	2.5	2.4
Cu (µg/l)	0.20	0.32	0.29
Fe (µg/l)	17	14	13
Pb (µg/l)	0.33	0.42	0.38
Hg (µg/l)	0.21	0.24	0.20
Ni (µg/l)	5.4	4.6	5.1
Zn (µg/l)	3.4	4.1	3.9
TKN (mg/l)	15	16	13
TOC (mg/l)	7.0	6.6	7.9
F (mg/l)	1.2	1.1	1.3
NH_3-N (mg/l)	9.2	8.6	7.8
PO_4-N (mg/l)	1.2	0.96	0.92
NO_3-N (mg/l)	0.14	0.19	0.15

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WT

WATER RESULTS ID. TPA 2A WT

	Replicate		
	I	II	III
Ag (µg/l)	0.01	0.02	0.02
Hg (µg/l)	<0.10	<0.10	<0.10
Zn (µg/l)	2.0	2.1	2.4
F (mg/l)	1.0	1.1	1.0

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WT

WATER RESULTS ID. TPA 3B WT

	Replicate		
	I	II	III
Ag (µg/l)	0.01	0.02	0.01
Hg (µg/l)	0.11	0.17	0.10
Zn (µg/l)	1.5	1.6	1.5
F (mg/l)	1.1	1.0	1.1

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WT

WATER RESULTS ID. TPA 4B WT

	Replicate		
	I	II	III
Ag (µg/l)	0.01	0.01	0.01
Hg (µg/l)	<0.1	<0.1	<0.1
Zn (µg/l)	<1.0	1.2	<1.0
F (mg/l)	1.0	1.0	1.0

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WATER RESULTS ID. TPA 5B WT

	Replicate I	Replicate II	Replicate III
Ag (µg/l)	0.01	0.01	0.02
Hg (µg/l)	<0.10	<0.10	<0.10
Zn (µg/l)	1.3	1.8	1.2
F (mg/l)	1.2	1.2	1.1

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SEDIMENT RESULTS ID. TPA 6B WOET

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	23000	19000	19000
Ag (ppm dry)	0.67	1.0	0.94
Cd (ppm dry)	1.4	1.9	1.4
Cr (ppm dry)	84	97	73
Cu (ppm dry)	8.9	13	19
Fe (ppm dry)	10000	10000	12000
Pb (ppm dry)	42	49	56
Hg (ppm dry)	0.66	0.43	0.59
Ni (ppm dry)	17	16	21
Zn (ppm dry)	120	130	120
TKN (ppm dry)	910	1100	1100
TOC (ppm dry)	7300	7700	8100
NH_3-N (ppm dry)	220	490	230
PO_4-P (ppm dry)	2200	2400	2100
NO_3-N (ppm dry)	1.0	1.2	1.2

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SEDIMENT RESULTS - Sample ID TPA 6 A

	Replicate Sample I	II	III
Specific Gravity	2.81	2.90	2.93
Grain Size: % passing thru sieve No. 4	100	100	100
10	97.1	94.6	94.2
20	95.4	92.1	94.2
40	93.1	88.9	90.0
60	88.6	84.2	83.9
100	78.3	67.5	72.7
200	69.9	54.6	56.5
Hydrometer: % less than 0.005 mm	43	47	39
0.001 mm	16	21	24

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WT

WATER RESULTS ID. TPA 6B WOET

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.02	0.03
Hg (µg/l)	0.18	0.10	0.12
Zn (µg/l)	1.6	2.0	1.7
F (mg/l)	1.0	1.0	1.0

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WATER RESULTS - Sample ID TPA 6B WOET

µg/liter	Replicate Sample I	II	III
Pesticides			
Mirex	<0.02	<0.02	<0.02
Toxaphene	<0.2	<0.2	<0.2
DDT	<0.01	<0.01	<0.01
Aldrin	<0.003	<0.003	<0.003
Chlordane	<0.2	<0.2	<0.2
Phenols			
2 - Chlorophenol	3.1	1.6	2.2
Phenol	<5.0	<5.0	<5.0
2,4 - Dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - Trichlorophenol	<0.05	<0.05	<0.05
4 - Chloro-m-cresol	<2.0	<2.0	<2.0
2,4 - Dinitrophenol	<20	<20	<20
Pentachlorophenol	<0.05	<0.05	<0.05

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ELUTRIATE RESULTS ID. TPA 6B WOET

	Replicate I	Replicate II	Replicate III
Al (µg/l)	2.2	2.8	3.0
Ag (µg/l)	0.08	0.06	0.08
Cd (µg/l)	0.06	0.07	0.06
Cr (µg/l)	5.0	3.2	4.2
Cu (µg/l)	0.20	0.33	0.30
Fe (µg/l)	14	15	11
Pb (µg/l)	0.29	0.37	0.38
Hg (µg/l)	0.21	0.23	0.18
Ni (µg/l)	4.6	3.6	3.4
Zn (µg/l)	4.8	4.2	5.1
TKN (mg/l)	16	12	19
TOC (mg/l)	12	12	11
F (mg/l)	1.2	1.2	1.3
NH_3-N (mg/l)	12	9.4	12
PO_4-N (mg/l)	0.96	1.1	1.3
NO_3-N (mg/l)	0.09	0.13	0.12

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SEDIMENT RESULTS ID. TPA 8 SFT

	Replicate		
	I	II	III
Al (ppm dry)	27000	25000	13000
Ag (ppm dry)	0.84	0.91	0.46
Cd (ppm dry)	1.8	0.94	0.92
Cr (ppm dry)	150	91	105
Cu (ppm dry)	24	16	38
Hg (ppm dry)	0.23	0.31	0.21
Pb (ppm dry)	29	21	37
Ni (ppm dry)	23	16	17
Zn (ppm dry)	180	180	120
TKN (ppm dry)	1200	920	930
TOC (ppm dry)	8100	5200	5900
Oil & Grease (ppm dry)	63	140	230

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SEDIMENT RESULTS - SAMPLE ID TPA 8 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.66	2.67	2.67
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	99.8
	20	98.6	97.8	96.9
	40	98.1	97.7	94.9
	60	97.8	97.0	93.2
	100	82.6	84.3	82.7
	200	61.4	60.7	59.3
Hydrometer: % less than 0.005 mm		33	38	30
0.001 mm		16	14	11

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FT

WATER RESULTS ID. TPA 8 SFT

	Replicate I	Replicate II	Replicate III
Ag (µg/l)	0.02	0.02	0.01
Cd (µg/l)	0.72	0.63	0.60
Hg (µg/l)	0.36	0.42	0.40
Pb (µg/l)	2.4	2.7	2.0
Cu (µg/l)	0.31	0.37	0.40
F (mg/l)	1.0	1.0	0.95

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S

SEDIMENT RESULTS ID. TPA 9 SFT

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	27000	25000	30000
Ag (ppm dry)	0.84	0.40	0.63
Cd (ppm dry)	1.2	1.2	1.9
Cr (ppm dry)	120	91	63
Cu (ppm dry)	24	19	21
Hg (ppm dry)	0.29	0.21	0.28
Pb (ppm dry)	29	21	28
Ni (ppm dry)	48	20	32
Zn (ppm dry)	190	130	120
TKN (ppm dry)	1700	1200	920
TOC (ppm dry)	11000	8300	9300
Oil & Grease (ppm dry)	270	430	560

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SEDIMENT RESULTS - SAMPLE ID TPA 9 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.55	2.52	2.55
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	99.4	100
	20	100	99.3	100
	40	99.8	99.0	99.2
	60	99.4	98.7	98.2
	100	98.1	98.0	97.7
	200	92.9	90.3	91.3
Hydrometer: % less than 0.005 mm		37	32	39
0.001 mm		11	14	11

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FT

WATER RESULTS ID. TPA 9 SFT

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.02	<0.01
Cd (µg/l)	0.66	0.57	0.49
Hg (µg/l)	<0.10	<0.10	<0.10
Pb (µg/l)	1.1	1.0	1.3
Cu (µg/l)	0.46	0.42	0.45
F (mg/l)	1.0	1.0	1.1

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SEDIMENT RESULTS ID. TPA 10 SFT

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	19000	23000	12000
Ag (ppm dry)	0.25	0.27	0.43
Cd (ppm dry)	0.65	0.82	1.2
Cr (ppm dry)	55	60	69
Cu (ppm dry)	5.5	13	11
Hg (ppm dry)	0.25	0.19	0.22
Pb (ppm dry)	11	6.9	21
Ni (ppm dry)	13	17	23
Zn (ppm dry)	93	64	79
TKN (ppm dry)	1200	1300	1500
TOC (ppm dry)	9500	8700	8400
Oil & Grease (ppm dry)	340	720	290

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SEDIMENT RESULTS - SAMPLE ID TPA 10 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.47	2.48	2.52
Grain Size: % passing thru sieve no.	4	92.3	89.6	94.3
	10	84.7	83.7	82.7
	20	77.7	77.0	77.1
	40	73.9	72.9	71.3
	60	68.0	67.2	67.2
	100	63.7	63.2	64.7
	200	58.0	58.9	54.8
Hydrometer: % less than 0.005 mm		41	46	43
0.001 mm		12	14	10

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F T

WATER RESULTS ID. TPA 10 SFT

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.02	0.03
Cd (µg/l)	0.76	0.43	0.47
Hg (µg/l)	0.21	0.17	0.14
Pb (µg/l)	2.2	2.0	1.7
Cu (µg/l)	0.31	0.52	0.49
F (mg/l)	1.0	1.0	1.0

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S

SEDIMENT RESULTS ID. TPA 11 SFT

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	23000	19000	14000
Ag (ppm dry)	0.31	0.32	0.47
Cd (ppm dry)	0.92	0.81	1.3
Cr (ppm dry)	67	49	62
Cu (ppm dry)	9.2	6.7	19
Hg (ppm dry)	0.08	0.14	0.13
Pb (ppm dry)	14	18	21
Ni (ppm dry)	9.3	12	7.3
Zn (ppm dry)	41	120	110
TKN (ppm dry)	3400	1200	2100
TOC (ppm dry)	10000	6400	7200
Oil & Grease (ppm dry)	480	760	820

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SEDIMENT RESULTS - SAMPLE ID TPA 11 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.57	2.59	2.58
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	100	100	100
	40	100	99.8	100
	60	99.7	99.2	99.0
	100	97.1	96.4	96.5
	200	86.7	87.2	84.2
Hydrometer: % less than 0.005 mm		34	36	37
0.001 mm		4.2	3.7	5.8

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FT

WATER RESULTS ID. TPA 11 SFT

	Replicate		
	I	II	III
Ag (µg/l)	0.03	0.01	0.01
Cd (µg/l)	0.06	0.05	0.05
Hg (µg/l)	<0.1	<0.1	<0.1
Pb (µg/l)	0.29	0.27	0.31
Cu (µg/l)	0.85	1.2	0.79
F (mg/l)	1.0	1.0	1.0

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SEDIMENT RESULTS ID. TPA 12 SFT

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	30000	30000	26000
Ag (ppm dry)	1.6	1.2	0.97
Cd (ppm dry)	1.9	1.3	1.4
Cr (ppm dry)	120	110	100
Cu (ppm dry)	40	38	47
Hg (ppm dry)	0.12	0.22	0.24
Pb (ppm dry)	46	81	29
Ni (ppm dry)	12	12	19
Zn (ppm dry)	170	190	190
TKN (ppm dry)	2000	2300	2100
TOC (ppm dry)	11000	13000	12000
Oil & Grease (ppm dry)	1200	430	230

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S

SEDIMENT RESULTS - SAMPLE ID TPA 12 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.47	2.58	2.59
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	100	100	100
	40	100	100	100
	60	99.5	100	99.2
	100	90.2	92.7	90.5
	200	77.6	78.3	72.7
Hydrometer: % less than 0.005 mm		51	48	43
0.001 mm		27	29	28

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FT

WATER RESULTS ID. TPA 12 SFT

	Replicate		
	I	II	III
Ag (µg/l)	0.05	0.03	0.04
Cd (µg/l)	0.02	0.03	0.02
Hg (µg/l)	<0.10	<0.10	<0.10
Pb (µg/l)	0.29	0.24	0.37
Cu (µg/l)	0.77	0.63	0.79
F (mg/l)	1.0	1.0	1.0

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XT

WATER RESULTS ID. TPA 13 XT

	Replicate I	Replicate II	Replicate III
Al (µg/l)	2.4	1.0	2.6
Ag (µg/l)	0.02	0.03	0.03
Cd (µg/l)	0.03	0.02	0.02
Cr (µg/l)	1.0	0.93	1.1
Cu (µg/l)	0.82	0.78	0.72
Fe (µg/l)	8.0	8.4	7.2
Pb (µg/l)	0.33	0.44	0.30
Hg (µg/l)	<0.1	<0.1	<0.1
Ni (µg/l)	0.91	0.94	1.2
Zn (µg/l)	3.9	4.2	3.7
TKN (mg/l)	3.6	2.7	2.9
TOC (mg/l)	4.8	5.4	5.3
F (mg/l)	1.0	1.0	1.0
NH_3-N (mg/l)	0.12	0.08	0.09
PO_4-P (mg/l)	0.54	0.52	0.71
NO_3-N (mg/l)	0.07	0.06	0.09

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E

SEDIMENT RESULTS ID. MAN 1A WET

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	18000	17000	11000
Ag (ppm dry)	0.25	0.37	0.92
Cd (ppm dry)	0.76	0.78	0.81
Cr (ppm dry)	24	29	42
Cu (ppm dry)	17	26	21
Fe (ppm dry)	6200	9000	11000
Pb (ppm dry)	14	16	8.4
Hg (ppm dry)	0.21	0.35	0.18
Ni (ppm dry)	15	21	12
Zn (ppm dry)	6.3	18	29
TKN (ppm dry)	1600	2300	3100
TOC (ppm dry)	13000	14000	22000
NH_3-N (ppm dry)	490	380	530
PO_4-P (ppm dry)	1600	1200	1300
NO_3-N (ppm dry)	1.1	0.93	1.6

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SEDIMENT RESULTS - Sample ID MAN 1A WET

	Replicate Sample I	II	III
Specific Gravity	2.74	2.75	2.80
Grain Size: % passing thru sieve No. 4	100	100	100
10	100	100	100
20	100	100	100
40	100	100	100
60	99.7	100	98.3
100	98.2	98.6	96.2
200	97.3	97.1	95.3
Hydrometer: % less than 0.005 mm	45	43	44
0.001 mm	23	25	19

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WT

WATER RESULTS ID. MAN 1A WET

	Replicate		
	I	II	III
Ag (µg/l)	0.02	0.02	0.02
Hg (µg/l)	<0.10	0.11	0.10
Zn (µg/l)	<1.0	1.2	<1.0
F (mg/l)	0.95	1.0	1.0

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ELUTRIATE RESULTS ID. MAN 1A WET

	Replicate I	Replicate II	Replicate III
Al (µg/l)	3.6	3.7	4.9
Ag (µg/l)	0.11	0.09	0.07
Cd (µg/l)	0.05	0.04	0.04
Cr (µg/l)	2.9	2.0	1.7
Cu (µg/l)	0.76	0.79	0.86
Fe (µg/l)	11	13	9.3
Pb (µg/l)	0.52	0.42	0.63
Hg (µg/l)	0.10	<0.10	<0.10
Ni (µg/l)	2.1	1.9	2.3
Zn (µg/l)	1.9	2.3	2.1
TKN (mg/l)	14	17	12
TOC (mg/l)	8.4	8.4	8.9
F (mg/l)	1.1	1.0	1.1
NH_3-N (mg/l)	8.8	9.7	10
PO_4-N (mg/l)	1.5	3.4	3.1
NO_3-N (mg/l)	0.12	0.14	0.11

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WT

WATER RESULTS ID. MAN 2B WOT

	Replicate		
	I	II	III
Ag (µg/l)	0.01	0.02	0.01
Hg (µg/l)	<0.1	<0.1	<0.1
Zn (µg/l)	<1.0	<1.0	1.1
F (mg/l)	1.0	1.0	1.0

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0

WATER RESULTS - Sample ID MAN 2B WOT

µg/liter	Replicate Sample I	II	III
Pesticides			
Mirex	<0.02	<0.02	<0.02
Toxaphene	<0.2	<0.2	<0.2
DDT	<0.01	<0.01	<0.01
Aldrin	<0.003	<0.003	<0.003
Chlordane	<0.2	<0.2	<0.2
Phenols			
2 - Chlorophenol	<1.0	<1.0	<1.0
Phenol	<5.0	<5.0	<5.0
2,4 - Dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - Trichlorophenol	<0.05	<0.05	<0.05
4 - Chloro-m-cresol	<2.0	<2.0	<2.0
2,4 - Dinitrophenol	<20	<20	<20
Pentachlorophenol	<0.05	<0.05	<0.05

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S

SEDIMENT RESULTS ID. MAN 3 SFT

	Replicate		
	I	II	III
Al (ppm dry)	1600	2000	2600
Ag (ppm dry)	0.14	0.21	0.22
Cd (ppm dry)	0.19	0.27	0.19
Cr (ppm dry)	6.2	11	14
Cu (ppm dry)	2.3	1.7	10
Hg (ppm dry)	0.16	0.15	0.11
Pb (ppm dry)	2.6	11	4.9
Ni (ppm dry)	3.4	2.0	6.1
Zn (ppm dry)	9.6	4.1	4.8
TKN (ppm dry)	420	310	260
TOC (ppm dry)	1800	970	1200
Oil & Grease (ppm dry)	410	320	260

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S

SEDIMENT RESULTS - SAMPLE ID MAN 3 SFT

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.70	2.68	2.73
Grain Size: % passing thru sieve no.	4	100	100	100
	10	98.2	98.3	99.1
	20	93.2	94.3	95.1
	40	87.2	88.7	90.2
	60	20.1	32.1	21.3
	100	3.9	5.8	4.8
	200	0.4	1.2	1.0
Hydrometer: % less than 0.005 mm				
0.001 mm				

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FT

WATER RESULTS ID. MAN 3 SFT

	Replicate		
	I	II	III
Ag (µg/l)	0.02	0.02	0.03
Cd (µg/l)	0.06	0.07	0.05
Hg (µg/l)	<0.10	<0.10	<0.10
Pb (µg/l)	0.29	0.24	0.29
Cu (µg/l)	0.38	0.47	0.45
F (mg/l)	1.0	1.0	1.1

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E

SEDIMENT RESULTS ID. JAX 3A FWJE

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	28000	24000	23000
Ag (ppm dry)	1.1	1.0	0.73
Cd (ppm dry)	1.3	0.84	0.73
Cr (ppm dry)	23	27	31
Cu (ppm dry)	38	32	28
Fe (ppm dry)	30000	29000	21000
Pb (ppm dry)	80	52	59
Hg (ppm dry)	0.39	0.35	0.34
Ni (ppm dry)	23	20	16
Zn (ppm dry)	9.2	11	21
TKN (ppm dry)	4000	3800	5200
TOC (ppm dry)	19000	19000	21000

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E

SEDIMENT RESULTS - Sample ID JAX 3A FWJE

	Replicate Sample I	II	III
Specific Gravity	2.87	2.97	2.93
Grain Size: % passing thru sieve No. 4	100	100	100
10	100	100	100
20	98.9	100	99.7
40	98.6	99.8	97.3
60	93.4	98.5	94.2
100	91.8	96.9	91.3
200	83.5	94.2	87.6
Hydrometer: % less than 0.005 mm	43	39	32
0.001 mm	18	9	14

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F WJ

WATER RESULTS ID. JAX 3A FWJE

	Replicate		
	I	II	III
Ag (µg/l)	<0.01	0.02	0.01
Cd (µg/l)	0.10	0.10	0.08
Hg (µg/l)	0.12	<0.10	0.10
Pb (µg/l)	2.2	1.9	1.9
Cu (µg/l)	1.6	1.2	1.4
Zn (µg/l)	4.7	5.2	4.2

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E

ELUTRIATE RESULTS ID. JAX 3A FWJE

	Replicate		
	I	II	III
Al (µg/l)	4.0	5.1	4.3
Ag (µg/l)	0.04	0.03	0.04
Cd (µg/l)	0.07	0.06	0.07
Cr (µg/l)	4.5	3.9	4.0
Cu (µg/l)	1.2	1.2	1.7
Fe (µg/l)	91	98	84
Pb (µg/l)	1.6	1.6	1.7
Hg (µg/l)	0.12	0.14	0.13
Ni (µg/l)	0.19	0.26	0.34
Zn (µg/l)	3.8	3.2	4.6
TKN (mg/l)	1.9	2.1	1.9
TOC (mg/l)	13	12	19

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WJT

WATER RESULTS ID. JAX 4B WJT

	Replicate		
	I	II	III
Ag (µg/l)	<0.01	<0.01	<0.01
Hg (µg/l)	<0.1	<0.1	<0.1
Zn (µg/l)	<1.0	<1.0	<1.0
Cd (µg/l)	0.02	0.02	0.03
Pb (µg/l)	0.38	0.32	0.37
F (mg/l)	0.40	0.45	0.47

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WJ

WATER RESULTS ID. JAX 5B WJ

	Replicate I	Replicate II	Replicate III
Ag (µg/l)	0.02	0.02	0.02
Hg (µg/l)	0.32	0.21	0.26
Zn (µg/l)	<1.0	<1.0	1.3
Cd (µg/l)	0.10	0.08	0.07
Pb (µg/l)	1.5	1.1	1.0

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WJ

WATER RESULTS ID. JAX 6A WJ

	Replicate I	Replicate II	Replicate III
Ag (µg/l)	0.02	0.02	0.03
Hg (µg/l)	0.35	0.26	0.29
Zn (µg/l)	35	27	24
Cd (µg/l)	0.49	0.39	0.44
Pb (µg/l)	7.5	6.2	6.9

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WJ

WATER RESULTS ID. JAX 7 WOJ

	Replicate		
	I	II	III
Ag (µg/l)	0.02	0.03	0.02
Hg (µg/l)	<0.10	<0.10	<0.10
Zn (µg/l)	1.2	<1.0	1.0
Cd (µg/l)	0.16	0.09	0.08
Pb (µg/l)	2.1	1.4	1.9

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0

WATER RESULTS - Sample ID JAX 7 WOJ

µg/liter	Replicate Sample I	II	III
Pesticides			
Mirex	<0.02	<0.02	<0.02
Toxaphene	<0.2	<0.2	<0.2
DDT	<0.01	<0.01	<0.01
Aldrin	<0.003	<0.003	<0.003
Chlordane	<0.2	<0.2	<0.2
Phenols			
2 - Chlorophenol	<1.0	<1.0	<1.0
Phenol	<5.0	<5.0	<5.0
2,4 - Dichlorophenol	<0.05	<0.05	<0.05
2,4,6 - Trichlorophenol	<0.05	<0.05	<0.05
4 - Chloro-m-cresol	<2.0	<2.0	<2.0
2,4 - Dinitrophenol	<20	<20	<20
Pentachlorophenol	<0.05	<0.05	0.16

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WJ

WATER RESULTS ID. JAX 8B WJ

	Replicate		
	I	II	III
Ag (µg/l)	0.02	0.01	<0.01
Hg (µg/l)	<0.1	<0.1	<0.1
Zn (µg/l)	1.4	1.7	1.5
Cd (µg/l)	0.82	0.47	0.52
Pb (µg/l)	5.3	3.7	3.8

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S

SEDIMENT RESULTS ID. JAX 10 SFJ

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	9500	10000	96000
Ag (ppm dry)	<0.10	0.12	0.21
Cd (ppm dry)	0.10	0.15	0.11
Cr (ppm dry)	7.2	6.7	6.3
Cu (ppm dry)	3.8	1.9	2.1
Hg (ppm dry)	0.13	0.15	0.21
Pb (ppm dry)	5.3	6.3	9.2
Ni (ppm dry)	4.4	6.1	11
Zn (ppm dry)	11	8.4	14
TKN (ppm dry)	110	210	100
TOC (ppm dry)	790	1100	480
Oil & Grease (ppm dry)	90	140	42

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SEDIMENT RESULTS - SAMPLE ID JAX 10 SFJ

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.59	2.48	2.57
Grain Size: % passing thru sieve no.	4	100	100	100
	10	93.7	93.9	92.4
	20	81.4	80.9	79.2
	40	65.3	70.1	67.3
	60	17.0	17.4	17.8
	100	5.2	4.9	4.3
	200	2.1	2.0	1.7
Hydrometer: % less than 0.005 mm				
0.001 mm				

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F

WATER RESULTS ID. JAX 10 SFJ

	Replicate		
	I	II	III
Ag (μg/l)	0.02	0.03	0.02
Cd (μg/l)	0.07	0.11	0.09
Hg (μg/l)	0.11	0.10	<0.10
Pb (μg/l)	2.4	1.6	1.7
Cu (μg/l)	1.8	1.3	1.5

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F

WATER RESULTS ID. JAX 11 FJ

	Replicate I	Replicate II	Replicate III
Ag (μg/l)	<0.01	<0.01	<0.01
Cd (μg/l)	0.06	0.04	0.07
Hg (μg/l)	0.20	0.16	0.14
Pb (μg/l)	1.4	1.7	1.2
Cu (μg/l)	1.2	1.0	1.0

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S

SEDIMENT RESULTS ID. JAX 12 SFJ

	Replicate		
	I	II	III
Al (ppm dry)	26000	21000	23000
Ag (ppm dry)	0.21	0.47	0.24
Cd (ppm dry)	0.46	0.21	0.29
Cr (ppm dry)	57	41	37
Cu (ppm dry)	8.6	21	9.4
Hg (ppm dry)	0.27	0.26	0.30
Pb (ppm dry)	42	17	22
Ni (ppm dry)	7.5	6.5	8.4
Zn (ppm dry)	110	46	34
TKN (ppm dry)	1800	2600	3700
TOC (ppm dry)	7300	17000	20000
Oil & Grease (ppm dry)	490	720	1300

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S

SEDIMENT RESULTS - SAMPLE ID JAX 12 SFJ

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.41	2.39	2.39
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	98.7	98.2	98.4
	40	97.1	97.0	96.5
	60	92.9	93.2	91.0
	100	78.4	78.2	79.0
	200	59.5	59.3	62.1
Hydrometer: % less than 0.005 mm		21	26	21
0.001 mm		10	9.7	9.2

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F

WATER RESULTS ID. JAX 12 SFJ

	Replicate		
	I	II	III
Ag (μg/l)	<0.01	<0.01	<0.01
Cd (μg/l)	0.15	0.08	0.07
Hg (μg/l)	0.13	0.15	0.21
Pb (μg/l)	1.5	1.2	1.2
Cu (μg/l)	1.2	1.2	1.0

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S

SEDIMENT RESULTS ID. JAX 13 SFJ

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	670	980	760
Ag (ppm dry)	0.82	0.49	0.56
Cd (ppm dry)	0.09	0.14	0.12
Cr (ppm dry)	2.7	2.6	3.9
Cu (ppm dry)	1.3	1.4	6.7
Hg (ppm dry)	0.07	0.16	0.11
Pb (ppm dry)	10	9.3	4.7
Ni (ppm dry)	22	19	12
Zn (ppm dry)	2.1	4.6	16
TKN (ppm dry)	210	230	140
TOC (ppm dry)	180	150	190
Oil & Grease (ppm dry)	42	39	57

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S

SEDIMENT RESULTS - SAMPLE ID JAX 13 SFJ

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.52	2.58	2.49
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	99.8
	20	95.2	97.3	96.5
	40	93.2	92.3	90.7
	60	44.3	48.6	48.3
	100	5.4	7.2	6.3
	200	0.2	0.4	1.6
Hydrometer: % less than 0.005 mm				
0.001 mm				

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F

WATER RESULTS ID. JAX 13 SFJ

	Replicate		
	I	II	III
Ag (μg/l)	<0.01	0.01	<0.01
Cd (μg/l)	0.02	0.02	0.02
Hg (μg/l)	0.23	0.14	0.12
Pb (μg/l)	1.2	0.97	0.92
Cu (μg/l)	1.0	0.87	1.1

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X

WATER RESULTS ID. JAX 14 X

	Replicate I	Replicate II	Replicate III
Al (µg/l)	3.0	3.6	3.7
Ag (µg/l)	0.01	<0.01	0.01
Cd (µg/l)	0.04	0.06	0.05
Cr (µg/l)	0.52	0.50	0.45
Cu (µg/l)	0.81	0.79	0.72
Fe (µg/l)	19	21	18
Pb (µg/l)	0.91	0.87	0.94
Hg (µg/l)	<0.1	<0.1	<0.1
Ni (µg/l)	0.24	0.30	0.31
Zn (µg/l)	2.5	2.4	2.7
TKN (mg/l)	0.42	0.58	0.47
TOC (mg/l)	12	11	13

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E

SEDIMENT RESULTS ID. JAX 15 WEJ

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	22000	22000	17000
Ag (ppm dry)	1.1	1.0	0.70
Cd (ppm dry)	0.92	0.43	0.37
Cr (ppm dry)	110	130	42
Cu (ppm dry)	20	23	16
Fe (ppm dry)	14000	11000	10000
Pb (ppm dry)	47	24	42
Hg (ppm dry)	0.31	0.34	0.51
Ni (ppm dry)	22	19	14
Zn (ppm dry)	130	120	49
TKN (ppm dry)	3000	3100	2300
TOC (ppm dry)	16000	12000	11000

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E

SEDIMENT RESULTS - Sample ID JAX 15 WEJ

	Replicate Sample I	II	III
Specific Gravity	2.20	2.52	2.43
Grain Size: % passing thru sieve No. 4	100	100	100
10	100	100	100
20	99.8	100	100
40	99.7	100	99.7
60	99.6	99.6	99.2
100	99.2	85.3	84.6
200	61.2	51.8	49.3
Hydrometer: % less than 0.005 mm	32	42	40
0.001 mm	18	21	28

Lee W. Andrews, PhD

Lanette M. Davis

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WJ

WATER RESULTS ID. JAX 15 WEJ

	Replicate		
	I	II	III
Ag (µg/l)	<0.01	<0.01	<0.01
Hg (µg/l)	0.11	<0.10	0.15
Zn (µg/l)	2.9	2.4	2.5
Cd (µg/l)	0.05	0.05	0.04
Pb (µg/l)	1.7	1.4	1.2

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E

ELUTRIATE RESULTS ID. JAX 15 WEJ

	Replicate I	Replicate II	Replicate III
Al (µg/l)	6.0	7.2	5.6
Ag (µg/l)	0.04	0.03	0.04
Cd (µg/l)	0.04	0.04	0.05
Cr (µg/l)	23	7.5	9.6
Cu (µg/l)	1.1	1.8	1.4
Fe (µg/l)	82	62	47
Pb (µg/l)	0.41	0.48	0.52
Hg (µg/l)	0.21	0.19	0.17
Ni (µg/l)	0.21	0.24	0.19
Zn (µg/l)	3.3	3.9	3.0
TKN (mg/l)	12	9.3	9.8
TOC (mg/l)	14	15	14

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S

SEDIMENT RESULTS ID. JAX 16S

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	29000	29000	20000
Ag (ppm dry)	0.86	0.36	0.24
Cd (ppm dry)	0.76	0.63	0.27
Cr (ppm dry)	320	170	93
Cu (ppm dry)	20	21	16
Hg (ppm dry)	0.44	0.47	0.39
Pb (ppm dry)	58	47	21
Ni (ppm dry)	104	22	47
Zn (ppm dry)	290	240	62
TKN (ppm dry)	5600	4300	4800
TOC (ppm dry)	25000	25000	26000
Oil & Grease (ppm dry)	2000	2300	1200

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S

SEDIMENT RESULTS - SAMPLE ID JAX 16S

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.31	2.30	2.29
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	98.9	100	99.7
	40	98.9	98.7	98.2
	60	98.2	98.1	97.6
	100	93.1	94.3	92.1
	200	83.5	79.6	75.3
Hydrometer: % less than 0.005 mm		68	52	54
0.001 mm		15	25	18

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S

SEDIMENT RESULTS ID. JAX 17S

	Replicate I	Replicate II	Replicate III
Al (ppm dry)	35000	33000	29000
Ag (ppm dry)	0.89	0.62	0.60
Cd (ppm dry)	1.2	0.92	0.31
Cr (ppm dry)	78	47	64
Cu (ppm dry)	24	24	14
Hg (ppm dry)	0.28	0.44	0.29
Pb (ppm dry)	66	21	49
Ni (ppm dry)	28	24	22
Zn (ppm dry)	19	26	11
TKN (ppm dry)	3600	4200	4600
TOC (ppm dry)	27000	24000	20000
Oil & Grease (ppm dry)	430	960	580

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S

SEDIMENT RESULTS - SAMPLE ID JAX 17S

ppm (dry basis)		Replicate Sample I	II	III
Mirex		<0.001	<0.001	<0.001
Toxaphene		<0.015	<0.015	<0.015
DDT		<0.001	<0.001	<0.001
Aldrin		<0.001	<0.001	<0.001
Chlordane		<0.005	<0.005	<0.005
2-Chlorophenol		<0.05	<0.05	<0.05
Phenol		<1.0	<1.0	<1.0
2,4-Dichlorophenol		<1.0	<1.0	<1.0
2,4,6-Trichlorophenol		<0.01	<0.01	<0.01
4-Chloro-m-cresol		<0.1	<0.1	<0.1
2,4-Dinitrophenol		<0.07	<0.07	<0.07
Pentachlorophenol		<0.01	<0.01	<0.01
Specific Gravity		2.35	2.36	2.43
Grain Size: % passing thru sieve no.	4	100	100	100
	10	100	100	100
	20	100	99.5	100
	40	100	99.3	100
	60	100	99.7	100
	100	72.3	68.7	73.2
	200	45.8	45.9	52.1
Hydrometer: % less than 0.005 mm		21	23	24
0.001 mm		9.2	9.0	7.8

STATION: PNS 1A-WOE

DATE: September 21, 1982

PNS 1A-WOE was located approximately 150 meters south of the loading terminal of the far west warehouse building. This placed the station at Latitude 30° 24' 02" N and Longitude 87° 14' 00" W. A new D.O. meter had arrived from our Chicago office which worked very well. Sediment at this station was black, loose, organic silt with a strong H_2S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification ~~PEN-1~~ PNS - 1A - WCE

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/21/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air temperature) Heavy thunderstorms preceeding cold front, NNW winds @ 5-15 knots mostly cloudy temp - down from 80°F to 70°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)
air temp. 25°C, 0% clouds some light haze, no rain, winds NNE @ 8-12 knots, current is negligible

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)
waves .5-1.0 ft wind chop, no algal blooms, no turbidity plooms, no foaming, no surface oils, etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)
tug pushed barge out approx. 100 m away just as we were anchoring, discharging odor present but unable to see from where, no dredging, sea bird present

1.11 General Comments
Ship anchored in berthing area about 300 m away. As we were sampling some surface seum came by us

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/21/82

Recorded by JDC

Water depth ~~37~~ Thirty-Seven

Client/Owner DER

Station Identification ~~PEN-1~~ PNS 1A-WQ6

Collected by PB, JR, JC

Time (begin) 1230

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.2	6.1	DISC
Temperature	~~28°~~ / 26°	28° / 28.4°	THERM / SCT
Salinity	30 / ~~24~~ 21	30 / 25.4	REF. / SCT
pH	7.85	7.92	AM
D.O.	4.3	4.3	DO
Conductivity	~~350~~ 350 / ~~359~~	410.4	SCT
Turbidity	3.2	3.4	TURB.

INITIAL DO water temp. @ MID-DEPTH 29°C

FINAL " " " " " " 28.8°C

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	19.2	SCT	26.4	SCT
Conductivity	323	SCT	432	SCT
D.O.	7.62	DO	4.6	DO
Temperature	26.4° / 28.3°	SCT / DO	26° / 29°	SCT / DO

STATION: PNS 2B-W(O)
DATE: September 21, 1982

PNS 2B-W(O) was located near the south end of Bay Channel mid-way between channel markers R "20" and N "22". Coordinates of the station are: Latitude 30° 21' 17" N Longitude 87° 14' 00" W. Samples were collected near the western side of the channel demarkation although the channel depth and the surrounding depth were the same. Collection of the "(O)" parameter required a procedural modification since the shipment from Savannah Laboratories was short six 1-liter glass bottles. Thus, three 1-liter glass organic bottles were used along with three 1-quart jars which were acid washed on board according to a procedure from Savannah Laboratories. Aside from this, sampling proceeded without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification ~~PEN-2B~~ PNS-2A W(O)

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/21/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

Heavy thunderstorms preceding cold front, NNW winds @ 5-15 knots, mostly cloudy, temps. down fr 80°F to 70°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 27°C, cloud cover 10% w/ some haze, no ra winds 15-20 knots from NNW

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves 1-2.5 ft' very choppy, no algal blooms, n turb. plumes, foaming due to waves, no surface oils

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls or traffic, no dredging, sighted a spinner shark.

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/21/82

Recorded by JDC

Water depth 38 Thirty Eight

Client/Owner DER

Station Identification ~~PEA~~ PNS 2BW(C

Collected by PB, JR, JC

Time (begin) 1520

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.4	6.8	DISC
Temperature	28° / 24°	28° / 24°	THERM / SCT
Salinity	29.5 / 25.2	29.5 / 22.2	REF. / SCT
pH	7.80	7.85	A M
D.O.	6.8	7.2	DO
Conductivity	415	~~[illegible]~~	SCT → 370
Turbidity	1.5	1.8	TURB

INITIAL DO TEMP. @ mid-depth 29°

FINAL " " " " " 29.5

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	20.8	SCT	27.9	SCT
Conductivity	340	SCT	448	SCT
D.O.	7.85	DO	6.7	DO
Temperature	24° / 28.2°	SCT / DO	25° / 29°	SCT / DO

STATION: PNS 4-SF

DATE: September 22, 1982

PNS 4-SF was located at the north end of Bay Channel just before the intersection of Bay Channel with East Channel, adjacent to channel marker "27". Samples were taken near the southeastern edge of the channel at Latitude 30° 23' 11" N and Longitude 87° 12' 29" W. Sampling proceeded without incident. Sediments were dark-gray, loose, organic silt underlain by medium stiff, gray, silty clay and stiff clayey silt from approximately 30 cm.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification PNS-4 SE end

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/22/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, 15-20 knots winds NNE, no clouds temp. down to 58° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 20°C, 0% cloud cover, light haze, no rain, winds 10-15 knots NNE

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves 1-2 w/3' swells, no algal blooms, no turbidity plumes, no foaming except wave action, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, some sea birds 1 tug passed as we were finishing sediments

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/22/82

Recorded by TDC

Water depth 38 Thirty Eight

Client/Owner DER

Station Identification PNS-4SE

Collected by JC, JR, PB

Time (begin) 1200

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.0	6.0	DISC
Temperature	26 / 24°	26° / 23°	TIKAM / SCT
Salinity	29 / 33	29 / 29	REF / SCT
pH	7.95	7.90	AM
D.O.	6.7	7.0	DO
Conductivity	370	382	SCT
Turbidity	3.1	3.0	TURB.

INITIAL DO TEMP. @ MID-DEPTH 26.8°
FINAL " " " " " 27.0

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	26.8	SCT	34	SCT
Conductivity	349	SCT	445	SCT
D.O.	7.6	DO	6.4	DO
Temperature	24° / 26°	SCT / DO	26.5 / 29°	SCT / DO

STATION: PNS 5-SF
DATE: September 22, 1982

PNS 5-SF was located directly southwest of Bay Channel cut northeast of channel marker R "20". Specifically the station was located at Latitude 30° 20' 30" N and Longitude 87° 14' 26" W. Sampling was difficult because of 10-15 knot winds which created two foot seas and chop in the bay. Sediment was black to dark-gray, stiff, clayey, medium grained sand with some silt fluff and some shell fragments at the water/sediment interface. A mild H_2S odor was detected.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification PEN-5SE cont

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/22/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, 15-20 knot winds NNE, no clouds temp. down to 58°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 24°C, 0% clouds cover, light haze, no rain, winds NNE @ 8-12 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

2-2.5' waves very choppy, no algal blooms, no turbidity plumes, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

no outfalls, no dredging, some seabirds
No vessel traffic in immediate area

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/22/82

Recorded by JDC

Water depth 36 Thirty-Six

Client/Owner DER

Station Identification PNS-5 SE

Collected by JC, JR, PB

Time (begin) 1522

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	5.5	6.0	DISC
Temperature	25° / 26°	25° / 25.2°	THERM / SCT
Salinity	21.5 / 20.2	21 / 20.2	REF / SCT
pH	7.85	8.0	AM
D.O.	7.1	7.25	DO
Conductivity	330	330	SCT
Turbidity	2.3	2.9	TURB.

INITIAL DO TEMP. @ MID-DEPTH 26.8°

FINAL " " " " " 26.4°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	19.2	SCT	27	SCT
Conductivity	315	SCT	432	SCT
D.O.	7.7	DO	6.5	DO
Temperature	25° / 26.2°	SCT / DO	27° / 28.5	SCT / DO

STATION: PNS 6-SF

DATE: September 23, 1982

PNS 6-SF was located south southwest of channel marker number "15" near Fort Pickens at Latitude 30° 20' 02" N and Longitude 87° 16' 59" W. The bottom sediments consisted of clean, medium grain sand. Benthic fauna were abundant in the sediment, especially the cepholochordate Branchiostoma caribaeum. The core sampling apparatus was not used because of sediment grain size. The ponar was used to collect all bottom grab samples. Some difficulty was encountered in recovering "full" ponar dredge samples. Only one sediment sample was taken for Atterberg analysis since the bottom sediments were sandy.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification PNS-6 SF cm

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/23/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, wind 8-12 knots NNE, 0% cloud cover, air temp down to 60°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp 25°C, Cloud cover 0%, no rain, winds 8-10 knots NNE

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves 1.0' slight surface chop, no algal blooms, no turbidity plumes, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

no outfall, no dredging, some seabirds, tug w/barge passed 100' from station just before we anchored. Some pleasure craft traffic

1.11 General Comments

Anchored 100 meters S of buoy 15

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/23/82

Recorded by JDC

Water depth 38 Thirty-Eight

Client/Owner DER

Station Identification PNS-6SE.

Collected by JC, JR, PB

Time (begin) 1331

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.2	6.1	DISC
Temperature	24.5 / 23°	~~23~~ 25° / 23°	THERM / SCT
Salinity	24 / 22.8	25.5 / 21.9	REF / SCT
pH	7.95	7.95	AM
D.O.	7.0	7.4	DO
Conductivity	350	334	SCT
Turbidity	2.1	1.9	TURB

INITIAL DO TEMP. @ MID-DEPTH 25.9°
FINAL " " " " " 25.0°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	21	SCT	28.5	SCT
Conductivity	325	SCT	430	SCT
D.O.	7.7	DO	6.7	DO
Temperature	24° / 25°	SCT / DO	24° / 27.8°	SCT / DO

STATION: PNS 7-X

DATE: September 23, 1982

PNS 7-X was located in Bay Channel, approximately midway between channel markers "21" and "25" at Latitude 30° 22' 11" N and Longitude 87° 13' 14". Elutriate bulk water was collected along with one replicate sediment sample for metals analysis and one sediment replicate for organics. The replicate sediment sample was labeled Split Sample Number 2 to be analyzed by Savannah Laboratories and by the EPA.

All samples collected at the Port of Pensacola were taken to the Bradenton Greyhound Bus Station by J.R., J.C. and P.B.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Pensacola

1.2 Station Identification PNS-7X

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/23/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, wind 8-12 knots NNE, 0% cloud cover, Air temp. down to 60°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 22° C, 0% cloud cover, no rain, wind 8-10 knots NNE

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves 2-2.5' moderate chop, no algal blooms, no turb. plumes, foaming due to wave action, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, some seabirds some small craft traffic

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Pensacola

Date (Month, day, year) 9/23/82

Recorded by JDC

Water depth 36 Thirty-Six

Client/Owner DER

Station Identification PNS-7X

Collected by JC, JR, DB

Time (begin) 1148

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.9	6.8	DISC
Temperature	26° / 25°	26° / 25°	THERM / SCT
Salinity	28 / 23	28 / 22.8	REF / SCT
pH	7.78	7.82	AM
D.O.	6.4	6.7	DO
Conductivity	350	350	SCT
Turbidity	2.4	2.4	TURB.

INITIAL DO TEMP. @ MID-DEPTH 27° C
FINAL " " " " " 26.2 C

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	21.5	SCT	29	SCT
Conductivity	332	SCT	439	SCT
D.O.	7.8	DO	6.1	DO
Temperature	25° / 25.8	SCT / DO	~~27~~ 28°	SCT / DO

26.5

STATION: TPA 1A-WET(O)
DATE: September 14, 1982

TPA 1A-WET(O) was located in the Garrison/Ybor Channel turning basin near the loading dock at the north side of the turning basin. Specifically the station was located at Latitude 27° 56' 26" N and Longitude 82° 26' 42" W. D.O. values taken with the Dames & Moore D.O. meter appear reasonable. Fresh KCL solution and a new membrane were installed prior to "in situ" data collection at this station. "In situ" data and water samples were collected uneventfully. Sediment recovered consisted of loose, black, organic silt with shell fragment and a strong H_2S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA-1 WET (0) ~~CW~~

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/14/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, moderate breezes from NE, 35% cloud cover, air Temp. 80° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Cloud cover 80%, no rain, winds from ESE @ 2-4 knots, air temp. 28° C

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves nearly calm, no algal plumes, no turbidity plumes, no foaming, ~~no surface oils~~, some floating debris evident. Surface scum present.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.) No bird life present at all (sea birds) 2 ships under repair 250' from station

1.11 General Comments

A discharge pipe (4") is discharging something (water) @ Tampa Drydock which is about 400' away. Industrial smell is the atmosphere. A street cleaner was clean the docking area 75' from station

1.12 Recorded by: JDC

Citrus pellet odor is in the air but dust is not observable. Several different loading terminals are located 1000' ~~up~~ in and out of port area around TPA-1

IN - SITU DATA RECORD SHEET

Job number 12739-604

Location (Port/Harbor) Port of Tampa

Date (Month, day, year) 9/14/82

Recorded by JDC

Water depth 38 Thirty Eight

Client/Owner DER

Station Identification TPA-1 WET

Collected by PB; JR, JC

Time (begin) 1210

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	3.2	3.8	DISK
Temperature	~~28°C~~ / 23°	29°C / 22	~~THERM~~ / SCT
Salinity	25 / 23.2	24	REF / SCT
pH	7.7	7.2	A.M.
D.O.	~~5.6~~ 2.9	3.1	DO
Conductivity	338	342	SCT
Turbidity	20	2.2	TURB.

DO Temp. Z

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	22.5	SCT	24.8	SCT
Conductivity	320	SCT	345	SCT
D.O.	4.2	DO	~~3.8~~ 3.5	DO
Temperature	23°C / 30°C	SCT / DO	25°C / 29°C	SCT / DO

STATION: TPA 2A-WT(O)
DATE: September 13, 1982

TPA 2A-WT(O) was located along the western side of the large spoil island north of the Alafia River Channel. The sample was collected between the six northern discharge pipes approximately 135 to 160 yards waterward of mean high water at Latitude 27° 52' 49" N and Longitude 82° 26' 20" W. The Dames & Moore D.O. meter was inoperable and consequently D.O. determination was completed only at the waters surface using one of DER's D.O. meters and accompanying short cable. No other problems were encountered during sampling.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA 2A WT(0) end

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/13/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature) Very heavy thunderstorm, wind shifting, air temp. 75°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp 33°C, cloud cover 30%, no rain, wind from NNE @ 1-3 knots, current 1 knot

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Nearly calm, no algal plumes, no turb. plumes, no foaming, no surface oils etc. Some white particles floating on surface

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Extensive bird life on spoil island, 6 outfalls from island, no dredging, small vessel traffic

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/13/82

Recorded by JDC

Water depth (19 Ten

Client/Owner DER

Station Identification TPA 2 AWT(0, end)

Collected by SR, JC, DB

Time (begin) 1445

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.1	2.3	DISC
Temperature	29.5 / 28.5	30.0 / 27.5	THERM / SCT
Salinity	20 / ~~21~~ 21	19 / 22	REF. / SCT
pH	7.9	7.8	A.M.
D.O.	—		
Conductivity	~~340~~	345	SCT
Turbidity	4.1	4.5.	TURB.

DO - Air Temp. 32.0
SCT - INOPERATIVE on Temp.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	21	SCT	25	SCT
Conductivity	310	SCT	360	SCT
D.O.	8.4	DO	5.2	DO
Temperature	~~34°C~~ / 36.5	SCT / YSI	33°C / 32	SCT / YSI

DER
HP

	Surface	
DO	~~8.2~~ 8.5	DER EQUIP
Salinity	18.5	
Temp.	34.0°C	
Cond.	340	

~~Bottom~~

DO - Air Temp. 33° C

STATION: TPA 3B-WT(O)
DATE: September 17, 1982

TPA 3B-WT(O) was situated in the Approach Channel located between the discharge channels from the TECO Power Plant at Latitude 27° 48' 08" N and Longitude 82° 24' 47" W. No D.O. determinations were made at the station as neither meter on board would stabilize during calibration, otherwise, sampling proceeded uneventfully.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA-3B WT(0)

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/17/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air temperature)

Local thundershowers, winds from NNE @ 5 knots, approx. 80°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 27°C, 10% cloud cover w/heavy haze, winds SSE @ 1-3 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves nearly calm, no algal blooms, no turbidity plumes, foaming (moderate) from power plant, some surface oils, smoke coming from stacks

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Tugs (2) and 2 small boats passed, no outfalls, ~~dred~~.

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/17/82

Recorded by JDC

Water depth 34 Thirty-Four

Client/Owner DER

Station Identification TPA-3B

Collected by PB, JR, JC

Time (begin) 1023

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.9	2.4	DISC
Temperature	28.5 / 24	28.5 / 24.6	THERM / SCT
Salinity	22 / 24.5	23 / 24	REF / SCT
pH	7.95	7.95	AM
D.O.	—	—	
Conductivity	340	345	SCT
Turbidity	3.5	3.5	TURB.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	26.2	SCT	25	SCT
Conductivity	320	SCT	350	SCT
D.O.	—	—	—	—
Temperature	24.5 / 25.0	SCT / YSI	24 / 24.6	SCT / YSI

No DO's taken because of faulty DO meter

STATION: TPA 4B-WT(O)
DATE: September 15, 1982

TPA 4B-WT(O) was located in the Alafia River Channel approximately 200' from the Gardinier loading dock area the west end of the dock. The station could not be precisely located using the hand bearing compass as no suitable land bearings were available. The station was located, by approximate methods, at Latitude 27° 51' 21" N and Longitude 82° 23' 32" W.

Equipment problems continued as D.O. values taken with the D&M and DER meters differed considerably (as reflected on the in-situ data record sheet). Other than this problem, sampling proceeded without notable incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA - 4B WT(0) cmw

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/15/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

~~Air Temp. 29°C, winds from NNE @ 3-5 knots. 5-10% cloud cover, no rain~~ No rain, winds from u 5 knots air temp approx 80°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 29°C, winds from NNE @ 3-5 knots, 5-10% Cloud cover, no rain

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Slight surface chop, no algal blooms, no turbidity plume no surface oils, some organic surface debris.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.) Possible bald eage sighting. Ship anchored at Gardinier dock 175' away (dumping its bilges app 60 gal./hr.) Sea birds abundant, a couple of dead floating

1.11 General Comments

Some phosphate dust? coming from loading area.

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/15/82

Recorded by JDC

Water depth 37 Thirty Seven

lead line 38'

Client/Owner DER

Station Identification TPA-4B WT(0)

Collected by PB, JR, JC

Time (begin)

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.3	2.0	DISC
Temperature	28.5° / 29.5	29.0 / 29.0	THERM / DO
Salinity	23 / 24	23 / -	REF. / SCT
pH	7.2	7.4	AM
D.O.	10.2	10.0	DO
Conductivity	345	343	SCT
Turbidity	7.6	9.5	TURB.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	21	SCT	22.2	SCT
Conductivity	300	SCT	350	SCT
D.O.	10	DO	10.2	DO
Temperature	30° / 24	DO / SCT	29 / 27	DO / SCT

DER EQUIP. { DO Surface 4.5
~~Sal.~~
~~Cond~~

STATION: TPA 5B-WT(O)
DATE: September 13, 1982

TPA 5B-WT(O) was located 400' north of the south spoil island and mid-way between the six discharge pipes. The station was specifically located at Latitude 27° 50' 44" N and Longitude 82° 26' 05" W. D.O. determination was made at the waters' surface only, due to a malfunction of the D.O. probe attached to the longer cable. All other data and samples were collected without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA - 5(B) WT(C) CMN

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/13/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature) Rain, high winds associated w/heavy thunderstorm

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 34°C, Cloud cover 50%, no rain, winds from NNE @ 3-5 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

½'-1' surface chop, no algal blooms, no turbidity plumes, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Barge passed 2000 ft. W

1.11 General Comments

Some foaming noted as we sampled

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/13/82

Recorded by JDC

Water depth (ft) Eleven

Client/Owner DER

Station Identification TPA-5A

Collected by JC, JR, PG

Time (begin) 1715

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.0	2.2	DISC
Temperature	30°C / 28	31 / 28.5	THERM / SCT
Salinity	20 / 19	22 / 20	REF. / SCT
pH	8.4	8.3	AM
D.O.	~~302~~	~~305~~	~~SCT~~
Conductivity	~~302~~	305	SCT
Turbidity	5.3	50	turb.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	20.5	SCT	21.5	SCT
Conductivity	295	SCT	310	SCT
D.O.	10.8	DO	~~11.8~~ 11.6	DO
Temperature	— / 31.5	SCT / DO	DO	32°C

DER EQUIP.

	Surface	
D.O.	11	DO
Sal.	18	SCT
Cond.	330	SCT
Temp.	32	SCT

STATION: TPA 6B-WOET

DATE: September 16, 1982

TPA 6B-WOET was located near the middle of East Bay at Latitude 27° 55' 14" N and Longitude 82° 25' 34" W. Once again the D&M D.O. meter was inoperable. Only surface water D.O. was determined using the DER meter. All other data and samples were collected without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification 6 B WOETcm

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/16/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds from NNE @ 2-4 knots, 30% cloud cover, air temp. 80° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 34°C, 50% cloud cover and moderate. No rain, winds from ENE @ 1-3 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves nearly calm, no algal blooms, no turbidity plooms, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No seabirds, no outfalls, no dredging, ship anchored throughout the area in East Bay 4 are anchored within 1000' ft. of us

1.11 General Comments

Anchor in middle of East Bay, Eastern Associated Terminals is due E., CF terminal is due N.

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 17739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/16/82

Recorded by JDC

Water depth 38 Thirty Eight

Client/Owner DER

Station Identification 6 B WOET

Collected by PB, JC, JC

Time (begin) 1530

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.8	2.8	disc
Temperature	28.5 ~~28.0~~	28.5 / 28.0	Therm. / SCT
Salinity	21.5 / 20.7	21.5 / 20.9	REF / SCT
pH	7.6	7.8	AM
D.O.	—	—	
Conductivity	340	335	SCT
Turbidity	3.0	3.0	TURB

NO DO

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	19.4	SCT	20.8	SCT
Conductivity	323	SCT	340	SCT
D.O.	9.0	DO	—	—
Temperature	27.4 / 28.0	SCT / SCT	27° / 27.5	SCT / SCT

NEW BR SCT

DER

NO DO

D+M DO Meter not working

STATION: TPA 8-SFT

DATE: September 16, 1982

TPA 8-SFT was located in the Port Sutton berthing area. The station was located to the west of the previously designated location. The station was specifically located directly south of a large ammonia storage tank at Latitude 27° 54' 27" N and Longitude 82° 25' 12" W. Mr. Carl Geovinko of the Port of Tampa was present during the sampling of this station. During in-situ data collection we asked Mr. Geovinko to make D.O. and S-C-T determinations so that we could check our instruments. The data from the S-C-T checked well with the two D&M S-C-T meters on board. The D&M and DER D.O. meters were both inoperable.

Sediments recovered at this station were dark to light gray, medium stiff to stiff clayey silt with shell fragments. The Lexan core did not recover full samples as it could not penetrate the stiff bottom sediments.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TBA-8-SFT Em

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/16/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds from NNE @ 2-4 knots, 30% cloud cover, air temp. 80°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

e clearing
ing programs

20% cloud cover w/heavy haze, air temp. 28°C, no rain, Winds from ENE @ 2-4 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

ves rarely calm, no algal plumes, foaming present w/floating heavy foam, surface oils but quite a lot of floating debris.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

tugs coming out, 3 outfalls in the turning area, dredging going on (clam shell) @ E end of berth. Some sea birds not many. 1 ship moored approx. 800' away

1.11 General Comments

Spoils area on S. side of berth is eroding, steam and smoke into air from power plant. There is also a lot of iron in the ~~of~~ water in the general area

1.12 Recorded by: JDC

We anchored just W of the electric plant water (200 ft.) discharge canal just in front of the 1st Ammonia tank about mid berth.

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/16/82

Recorded by JDC

Water depth 30.5 Thirty-Six + 1/2

Client/Owner DER

Station Identification TPA-8 STT

Collected by JC, PB, JR

Time (begin) 1122

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	3.4	3.3	DISC
Temperature	29.0°C / 27.2	26.5 / 26.5	THERM / SCT
Salinity	22 / 13	23 / 17.5	REF. / SCT
pH	7.8	7.85	AM
D.O.	4.4	4.1	DO
Conductivity	170 ~~x100~~	170 ~~x100~~	SCT
Turbidity	7.0	4.6	TURB.

TPA · Port A

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	19	SCT	15	SCT
Conductivity	165 x100	SCT	192 x100	SCT
D.O.	4.9	DER DO	4.0	DO
Temperature 27.0	~~[illegible]~~ / 28.5	DO / SCT	29.5 / 25.8	DO / SCT

Test bottom

DO's were taken w/ instruments from Tampa Port Authority.

STATION: TPA 9-SFT

DATE: September 15, 1982

TPA 9-SFT was located in the Hillsborough Channel at the intersection of the Alafia River channel with Cut C at Latitude 27° 50' 42" N and Longitude 82° 26' 41" W. In-situ data was collected without incident except for mid and bottom D.O. determinations where the D.O. meter failed to give reasonable values. Surface D.O. was determined using the DER D.O. meter with the short probe cable. The recovered sediment was black, gelatinous, silt with a strong H_2S odor. The recovered Lexan core sample indicated coarser material at approximately 43 cm into the bottom sediments.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA-9 SIFT comp

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/15/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air temperature)

No rain, winds from W @ 5 knots, air temp approx. 80°

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

.5-1.0' surface chop, 35% w/haze, no rain, winds from NNE @ 5 knots, air temp. 31°C

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

.5-1.0' surface chop, no algal blooms, no turbidity plumes, some foaming in the area (very light), no surface oil etc. 1/2 knot current

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, abundant sea birds

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/15/82

Recorded by JDC

Water depth ~~44~~ Forty Four

Client/Owner DER

Station Identification TPA-9 SFT

Collected by JR, PB, JC

Time (begin)

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.6	2.7	DISC
Temperature	28.5 / 29.8	28.5 / 29.4	THERM / DO
Salinity	23 / 25	21 / 24.0	REF. / SCT
pH	8.0	8.0	AM
D.O.	—	—	—
Conductivity	340	350	SCT
Turbidity	6.9	7.1	Turb.

26.5° SCT

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	23.2	SCT	26.9	SCT
Conductivity	320	SCT	362	SCT
D.O.	9.2	DER DO	—	—
Temperature	30.5° / 28°	DO / SCT	DO / 28°	~~SCT~~ / SCT

30°

need DER inp. for face DO

DO Meter not working, we collected no Data except temp. with DO meter (D+M)

STATION: TPA 10-SFT
DATE: September 12, 1982

TPA 10-SFT was located in the Approach Channel to the TECO power plant near channel marker R "4" at Latitude 27° 48' 33" N and Longitude 82° 26' 12" W. Data and sample collection proceeded without incident. Sediments recovered at this station were somewhat heterogeneous but were basically dark gray, silty/clayey, gelatinous and with a strong H_2S odor. Also, completed today was re-sampling of TPA 11-SFT for water quality due to potential contamination of the samples previously taken on September 10. I discussed the potential contamination from the micropipet with Savannah Labs. Jim Andrews stated that this station (TPA 11-SFT) should be resampled and that after discarding the 9/10/82 sample, the previously used sample bottles should be acid washed using 5 ml HNO_3 and 10 ml of distilled water and then properly rinsed.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA 10

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/12/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds from ENE @ 5 knots, 50% clouds approx. 76°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 34°C, 35% cloud cover, no rain wind from SSE @ 3-5 knots, Tide going out, current @ about .5 knot.

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

very light surface chop, no algal blooms, no turbidity plumes or foaming, no surface oils etc. ~~Appears to be a plankton bloom (see the reading)~~

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.) Ran off station by barge, re-anchored very close to original spot.

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DER

Location (Port/Harbor) Tampa Bay

Station Identification TPA 10 S

Date (Month, day, year) 9/12/82

Collected by JR, JC, PB

Recorded by JDC

Time (begin) 1240

Water depth 37 Thirty Seven

SEE RE-DUE

This Note was to remind us that the Data record for TPA-11 SFT was attached to this dump records. Samples at were re-taken today.

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.8	1.5'	DISC
Temperature	28.5 THERM / 25.°	29.0 / 26.2	THERM / SCT
Salinity	22ppm / 19	21.5 / 20	R&F / SCT
pH	7.9	7.75	AM #95
D.O. 6.3	~~4.7~~	6.5	YSI
Conductivity	390	382	SCT
Turbidity	2.7 *		TURB.

No turbidity reading due to run down battery. Will take a sample back and try to get a reading.

Physical Surface & Bottom

* from a sample brought back to the hotel;

	Surface	Method	Bottom	Method
Salinity	20	SCT	19	SCT
Conductivity	380	SCT	350	SCT
D.O. 11	~~5.10~~	YSI	5.4	YSI
Temperature	24° / —	SCT / YSI	~~26.6~~ 26.6 / —	SCT / YSI *

Just call due to 190

* YSI (DO)

Bottom temp. was not taken w/YSI it is working improperly

Indication of stratification probably due to other problems!

@ 18' DO went from 5.4 to 4.7 distinct stratification

@ very surface DO is 10, appears to be a plankton bl

STATION: TPA 11-SFT

DATE: September 10, 1982

TPA 11-SFT was located at the east end of Gadsen Cut adjacent to channel marker R "8F". Station coordinates are Latitude 27° 47' 07" N and Longitude 82° 31' 05" W. Due to inclement weather, the first attempt at sampling the station was aborted. The station was sampled later in the afternoon. Due to possible contamination from the micropipet two in-situ data record sheets are attached. One of these was constructed today, the other on Sunday, September 12 when the water samples were retaken. The samples previously collected at this station were discarded and the bottles were acid washed using 5 ml HNO_3 along with 10 ml of distilled water prir to sample collection on 9/12/82..

During todays' sampling no turbidity determinations were made as the turbidimeter batteries were too weak for proper calibration of the instrument. Problems were encountered with ponar dredge sampling since the material was too soft to trip the ponar. To account for the soft sediments, a 10 kilogram plastic coated weight was placed on the rope atop the dredge in order to trip the cocking mechanism. The procedure worked efficiently and adequate sample was retrieved.

Report #1
Early afternoon

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) TAMPA BAY

1.2 Station Identification TPA 11 SET

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/10/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds from NE @ 5 knots, cloud cover was ≥ 50%, temp approx. 78 85° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 28°C, cloud cover 95%, no rain (yet!) winds SSW @ ≤ 3-5 knots. Thunderheads building all around us, storms are imminent.

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

very slight surface chop, no algal plumes, no turbidity plumes, ~~no foaming~~, no oils etc., surface clean. some foaming from wave action

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

vessel traffic includes barges ( ), American dredging (Jim Bean) operating approx. 4000 ft. ENE of station

1.11 General Comments

Weather is threatening with rain visible in the distance. Weather worsening steadily. Sampling aborted because of weather

1.12 Recorded by: _____

Report #2
Late Afternoon

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA 11 SFT

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/10/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

See Report #1

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 26°C, 95° on overcast, just had a substantial thundershower but still now Very light breeze from WSW, Current negligable

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves .5-1.0' chop, no algal plumes, no turbidity, no foaming or surface oils

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

American dredge about 4000 ft. away, large ship passed through channel

1.11 General Comments

Anchored 20' from buoy (red light) SF

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) TAMPA BAY

Date (Month, day, year) 9/10/82

Recorded by JDC

Water depth (40) Forty Feet

Client/Owner DER

Station Identification TPA 11 SET

Collected by PB, JR, JC

Time (begin) 1600

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.8	3.1	DISCK
Temperature	32.0C / 28°C	28.5	SCT / YSI
Salinity ~~REF.~~	22 / 15.5?	22 / 22	A-O ~~REF~~ ~~YSI~~ ~~SCT~~ YSI
pH	7.9, 7.85	7.9 ~~7.85~~	AM * +
D.O.	5.8	5.75	YSI
Conductivity	275	282	SCT
Turbidity	—	—	

+ First ph taken w/ S. # 95
Second " " w/ S. # 67

Final salinity (22) was taken @ surface w/ A-O ref.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	15?	SCT	16.5 ?	SCT
Conductivity	268	SCT	295	SCT
D.O.	5.9	SCT	5.75	SCT
Temperature	31.8°C	SCT	32°C / 28°C	SCT / YSI

Salinity on SCT may be in error doesn't seem right?

No turbidity reading see field notes

* Analytical Measurments Instruments 107

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/12/82

Recorded by JDC

Water depth ( )

Client/Owner DER

Station Identification TPH-11 SFT

Collected by PB, JR, JC

Time (begin)

Rinda of TPH-11 SFT

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.6	1.4	
Temperature	28° / THERM	30 / 29.5	YSI / THERM
Salinity	24 / 23	25 / 22	REF / [illegible]
pH	8.1	8.1	HM
D.O.	9.1	8.9	[illegible]
Conductivity	320	328	[illegible]
Turbidity	2.9	2.6	TURB

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	23	SCT	~~27~~ 19	SCT
Conductivity	310	SCT	285	SCT
D.O.	11.2	YSI	[illegible]	[illegible]
Temperature	~~[illegible]~~ / 31	SCT / 30	~~[illegible]~~ / 29	SCT / YSI

[illegible] SCT 203

[illegible] 27 at bottom

Cond. 350

STATION: TPA 12-SFT
DATE: September 14, 1982

TPA 12-SFT was located at Latitude 27° 55' 08" N and Longitude 82° 26' 34" W. There was a strong odor in the air presumably from the waste treatment plant, northeast of the station. Two outfalls were located at the east end of the berthing area. Sampling proceeded uneventfully. The sediment recovered was a dark gray, organic silt, gelatinous in texture. A strong H_2S odor was associated with the sediment. The Lexan core sample indicated a layer of medium stiff clayey silt below the gray black, loose, organic silt. Sampling was completed without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA-12 SFT am

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/14/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, moderate breezes from NE, 35% cloud cover, air Temp. 80°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Cloud cover 40%, no rain, wind from SSE @ 2-4 knots, Air Temp. 34°C, no current.

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves nearly calm, no algal blooms, no turbidity blooms, some very light foaming, no surface oils. A turbidity bloom (grayish) coming from the S. outfall 20' into berth

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

2 large barges w/ tugs anchored on S side of bathing area. 2 outfalls at E end of berth (that we can see)

1.11 General Comments

Strong sewage odor in air?

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/14/82

Recorded by JDC

Water depth 30 Thirty Six

Client/Owner DER

Station Identification TPA-12S

Collected by PB, JR, JC

Time (begin) 1534

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	3.0	2.8	DISC
Temperature	28°C / 28.5	24°C	THERM / SCT
Salinity	25 ppm / 27	24	REF. / SCT
pH	7.8	7.6	AM
D.O.	3.9	4.1	DO
Conductivity	340	348	SCT
Turbidity	3.1	2.8	TURB

DO TEMP.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	25	SCT	27.0	SCT
Conductivity	310	SCT	350	SCT
D.O.	5.2	DO	3.5	DO
Temperature	24°C / 30.5	SCT / DO	26.8° / 29.5°	SCT / DO

STATION: TPA 13-XT

DATE: September 17, 1982

TPA 13-XT was located near the eastern end of Gadsden Point Cut mid-way between channel markers R "4" and R "6". Specifically, the station was located at Latitude 27° 48' 00" N and Longitude 82° 28' 31" W. D.O. determinations were not completed because neither meter would stabilize. At Joe Ryans' request Split Sediment Sample Number 1 was collected at this station. The recovered sediment was brown to light brown, somewhat gelatinous sandy silt with a strong H_2S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Tampa Bay

1.2 Station Identification TPA-13XT(m)

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/17/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

Local thundershowers, winds from NNE @ 5 knots, approx. 80°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 31°C, winds from N @ 2-4 knots. 10% cloud cover w/haze, no rain

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Very calm, no algal blooms, no turbidity plumes, no oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Large shrimp passed 500' from station, dre 4000' away, 2 Tugs pulling pipe passed 750' No dredging

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Tampa Bay

Date (Month, day, year) 9/17/82

Recorded by JDC

Water depth (47) Forty-Seven

Client/Owner DER

Station Identification TPA-13XTEW

Collected by JR, DB, JC

Time (begin) 1226

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.1	2.7	DISC
Temperature	~~28.5~~ 24	29 ~~28.6~~	THERM ~~SCT~~
Salinity	24 ~~26~~	26 ~~26.5~~	REF. ~~SCT~~
pH	8.2	7.95	AM
D.O.	—	—	—
Conductivity	350	355	SCT
Turbidity	4.0	4.9	TURB.

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	24 ~~24.5~~	SCT	26 ~~23.5~~	SCT
Conductivity	330	SCT	350	SCT
D.O.	—	—	—	—
Temperature	24.5 ~~25~~	SCT ~~SCT~~	22.5 ~~23.0~~	SCT ~~SCT~~

No DO's taken because of faulty DO meter

STATION: MAN 1A-WET(O)
DATE: September 11, 1982

MAN 1A-WET(O) was located within the port berthing area at Latitude 27° 38' 01" N and Longitude 82° 33' 39" W. During acidification of the first water sample replicate the automatic pipet ejected a gray-black solution. Therefore, the sample was discarded and the bottle flushed several times. The pipet was broken down and cleaned and a new sample taken. No other problems with the automatic pipette or otherwise were encounted at this station. The recovered sediment was dark gray-green clayey silt, gelatinous in texture, with a slight H_2S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) ~~Tampa Bay~~ Manatee

1.2 Station Identification MAN 1 A WET (O) AMW

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9-11-82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds nearly calm w/ 25% cloud cover temp 78° F.

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Cloud cover 40% (light clouds) no rain, winds from NNW @ <5 knots, Air Temp. 32°C, no significant current.

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

<.5' surface roll, no algal plumes, no turbidity plumes, no surface oils etc., no foaming, some white particles suspended in water moving w/current (possible plankton per JR)

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

1 tug ~~anchored at~~ moored at entrance to berth, 1 tug moored at rear of berth along with barge

1.11 General Comments

Anchored 150 yds from either side of berth (in middle) approx. 300 yds. from end of berth 200 yds from entrance

1.12 Recorded by: [signature]

Driving piling in NE corner of berth

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Manatee

Date (Month, day, year) 9/11/82

Recorded by JDC

Water depth (39) Thirty Nine

Client/Owner DER

Station Identification MAN 1 A u

Collected by PB, JC, JR

Time (begin) 1120

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.0'	5.8	DISC
Temperature	25°C / 28°C	26.0 / 27.5	SCT / YSI
Salinity 23	~~25 NTU~~ / 26 NTU	30 NTU / 31	SCT / RCF.
pH	7.9 / 7.8	7.8	AM #95 / AM #67
D.O.	6.4	6.5	DO meter / SCT
Conductivity	359	355	SCT
Turbidity	2.8	3.0	TURB

VALUES IN PARTIAL THESE B. WERE FINAL 30 TH

TEMP. w/therm. @ MID-DEPTH 28°C

2% bratho when push drops to 22 (cond.)

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	22.5	SCT	20 NTU	SCT
Conductivity	362	SCT	355	SCT
D.O.	6.4	YSI	~~5.7~~ 6.3	YSI
Temperature	26°C / 28.8	SCT / YSI	22°C / 28°C	SCT / YSI *

CT bottom 220

* YSI (DO meter)

STATION: MAN 2B-WOT

DATE: September 11, 1982

MAN 2B-WOT was located within the port approach channel midway between channel markers "8" and "10" at Latitude 27° 38' 16" N and Longitude 82° 34' 09" W. Data collection proceeded without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Port of Manatee

1.2 Station Identification MAN 2B WOT

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/11/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds nearly calm w/75% cloud cove temp. 78°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Cloud cover 50% (some thunderheads forming) no r Air Temp. 34°C

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

.5' surface chop, no algal plumes, no foaming, n turbidity plumes, no surface oils etc., some organ debris floating

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Several small pleasure of N point of spoil islan scalloping or clamming?

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Port of Manatee

Date (Month, day, year) 9/11/82

Recorded by JDC

Water depth 34.5 Thirty-Four + a half

Client/Owner DER

Station Identification MAN 2B-WOT

Collected by PS, JR

Time (begin)

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	4.5	4.5	DISK
Temperature	26.0°C / 29.0	29°C / THERM	SCT / YSI *
Salinity	30 / 23.8	30 / REF.	REF / SCT
pH	7.8 ~~9.5~~	7.4	# 95 / #95 AM
D.O.	3.4	~~3.60~~	YSI
Conductivity	372	~~3.80~~	SCT
Turbidity	2.1	2.1	Turb.

test all steps @ 220

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	23.5	SCT	23.8	SCT
Conductivity	375	SCT	355	SCT
D.O.	2.6	YSI	4.2	YSI
Temperature	26°C / 30°C	SCT / YSI	25°C / 28.8°C	SCT / YSI

surface stabilized 2:25

cell test steps 220 on cond.

* YSI (DO meter)

STATION: MAN 3-SFT

DATE: September 11, 1982

MAN 3-SFT was located mid-channel between channel markers "3" and "4" at Latitude 27° 39' 08" N and Longitude 82° 35' 26" W. During in-situ data collection, erratic D.O. readings were observed, caused by a bubble underneath the D.O. probe membrane. The membrane and solution were changed several times but the problem continued to develop. Apparently the KCL solution was either old or contaminated and therefore no D.O. determinations were made at this station on this day. All other data and samples were collected without incident. Sediments recovered at this station graded from dark gray sandy silt to gray silty sand. Due to the sandy nature of the bottom material, all sediment samples were collected using the ponar grab.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Port of Manatee

1.2 Station Identification MAN-3 SFT

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/11/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds nearly calm, w/75% cloud cover temp. 78°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Cloud cover about 40% w/some thunderheads, no rain, air temp. 32°C, winds due east @ < 5 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves .5' light surface chop, no algal blooms or turbidity plumes, some very light foaming, no surface oils.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Tug boat using channel passed within 75 ft.
" " " " " " 50 ft while sampling!

1.11 General Comments

Current going out w/tide @ 1-2 knots

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 17739-004

Location (Port/Harbor) Port of Manatee

Date (Month, day, year) 9/11/82

Recorded by JDC

Water depth ~~40~~ 45 Forty + a half

Client/Owner DER

Station Identification MAN 3 SF

Collected by PB, JC, JR

Time (begin) 1530

THIS VALUE WAS DETERMI USING THE REFRACTOMET

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.5'	2.8	DISK
Temperature	22.5 / 27.0	28.0 / 29.0	SCT / TD
Salinity	23 (SCT) / 20	31 / 25	REF / SCT
pH	7.85	7.85	AM #95
D.O.	—	—	—
Conductivity	360	362	SCT
Turbidity	4.3	4.5 NTU	turb.

goes to 22c

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	20.8	SCT	31 / 24	REF / SCT
Conductivity	340	SCT	350	SCT
D.O.	—	—	2	YSI
Temperature	27.5	SCT	25°C / 28.2c	SCT / YSI

goes 220 on test cell

Bubble found in DO probe tried to fix but didn't work

STATION: JAX 3A- FWE(O)
DATE: September 29, 1982

JAX 3A-FWE(O) was located adjacent to Tallyrand Docks, approximately 50 feet from dockside and mid-way between the two large warehouses on the loading dock. Station coordinates were Latitude 30° 21' 04" N and Longitude 81° 37' 14" W. Clam shell dredging was underway at the dock during sampling. The station was not designated as an elutriate station prior to the field program but was changed to an elutriate designation because sandy bottom material was observed at Stations JAX 2A-WOJ (which was deleted from the sampling program) and JAX 7A-WOJ. The boat was restationed during sampling as the anchor slipped. The recovered sediment was black, very soupy silt with a petroleum sheen and a hydrocarbon odor. The Lexan core sample indicated the material to extend to 47 cm, underlain by medium-stiff clayey material. Phil Bowen was absent but Bob Glassen, Lou Burnie and Terry Jernigan were onboard today.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax. 3A SFWE(O) cw

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/29/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 2-4 knots, partly cloudy, air temp. 78°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

~~Moderate surface chop < 1.0~~, 100% cloud cover, light drizzling rain, winds NNE @ 10 knots, air temp. 26°C

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Moderate surface chop < 1.0, no algal blooms, no turbid plumes, foaming due to waves action, no surface oils & Current is slack

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

300 M. ~~fro~~ down river from outfall on transit shed dredging (clamshell off S. end of transit shed #2 Move loaded (sediment) barge from dockside as we sample

1.11 General Comments

Anchored 75' from dock side between transit shed #1 & #2

Weather has deteriorated as we have sampled except rain has stopped. Winds gusting to 20 knots.

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12729-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/29/82

Recorded by JDC

Water depth 36 Thirty-six

Client/Owner DCR

Station Identification JAX - 3A SFWECC

Collected by JC, JP, BG, LB

Time (begin) 1044

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.8	1.8	DISC
Temperature	24.8° / 25°	25° / 25°	THERM / SCT
Salinity	8.0 / 8.5	8.0 / 8.2	REF. / SCT
pH	7.4	7.3	SCT
D.O.	5.0	4.8	DO
Conductivity	138	138	SCT
Turbidity	33	23	TURB

IN-SITU FOR "F" only take 1 hr. to the after original Sal 5.0 REF pH 7.2 AM Temp. 24.9 THER

INITIAL DO TEMP. @ MID-DEPTH 26°
FINAL " " " " " 25.5°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	6.0	SCT	10	SCT
Conductivity	100	SCT	160	SCT
D.O.	5.0	DO	5.1	DO
Temperature	25.5° / 26.5°	SCT / DO	24° / 26°	SCT / DO

We lost anchor and had to move during IN-SITU finished collection about 20' from original spot.

Tide started out as we were finishing IN-SITU

STATION: JAX 4B-WJT(O)
DATE: September 29, 1982

JAX-4B-WJT(O) was located within the berthing area of a phosphate loading terminal at the confluence of Long Branch and the St. John's River at Chaseville Turn. Specifically, the station was located 150 m north of the third tire on the loading terminal and 100 m into the channel. Station coordinates were approximated at Latitude 30° 22' 15" N and Longitude 81° 37' 49" W. Sampling of the station proceeded without incident. Bob Glassen and Lou Burnie were on board today since Phil Bowen was absent.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax. 4B WJT(0) ~1

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/29/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 2-4 knots, partly cloudy, air temp. 78°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 26°C, Cloud cover 100%, intermittent very light mist, winds NNE @ 13-18 gusts to 20 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves 2-2.5' heavy chop, no algal blooms, no turbidity plumes, foaming due to waves, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, seabirds observed, ship anchored 50' away.

1.11 General Comments

Anchored 375 M. in the channel, in the middle off the ~~NE~~ end of the phos. terminal

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 8/29/82

Recorded by JDC

Water depth 20 Twenty-Six

Client/Owner DER

Station Identification 4B WJFC

Collected by JC, JR, BG

Time (begin) 1630

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.8	2.0	DISC
Temperature	25° / 23°	24° / 24°	THERM / SCT
Salinity	5.0 / 4.5	4.0 / 4.2	REF / SCT
pH	7.5	7.5	AM
D.O.	7.6	7.5	DO
Conductivity	75	75	SCT
Turbidity	9.9	9.1	TURB

INITIAL DO TEMP. @ MID-DEPTH 26°
FINAL " " " " " 25.3°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	4.2	SCT	4.8	SCT
Conductivity	72	SCT	82	SCT
D.O.	6.7	DO	~~8.2~~ → 7.7	DO
Temperature	23° / 26°	SCT / DO	23.5° / 26°	SCT / DO

STATION: JAX 5B-WJ(O)
DATE: October 1, 1982

Station JAX 5B-WJ(O) was located in Trout River Channel at the confluence of the Trout River and the St. John's River, between channel marker buoys "64" and "66" (200 m from marker "64"). Specifically, the station was located at Latitude 30° 23' 23" N and Longitude 81° 37' 34" W. Sampling of the station had to be discontinued twice to avoid on coming ship traffic. No equipment problems were encountered during data collection.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax 5B WJ(O)

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 10/1/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds 10-20 knots, 100% cloud cover, air temp. 74° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

100% cloud cover, no rain, winds NNE @ 15 knots, air temp. 23.5°C

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

wave 1'-2' ~~surf~~ and choppy, no algal blooms, no turbidity plumes, foaming due to waves; no surface oil

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, vessel traffic in channel some seabirds

1.11 General Comments

Anchored between buoys 66-64 on opposite side of channel, 200 Meters from buoy 64

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 10/1/82

Recorded by JDC

Water depth 43 Forty-Three

Client/Owner DER

Station Identification Jax-5B WJ(0)

Collected by JC, JR, PB

Time (begin) 1336

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.4	2.3	DISC
Temperature	24.5° / 24°	24.5° / 24°	THERM / SCT
Salinity	14 / 12.9	15 / 13.2	REF. / SCT
pH	7.7	7.7	AM
D.O.	~~8.0~~ 8.1	7.8	DO
Conductivity	210	218	SCT
Turbidity	5.8	6.5	TURB

INITIAL TEMP. DO @ MID-DEPTH 25.5°
FINAL 24.5°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	12.7	SCT	12.8	SCT
Conductivity	210	SCT	205	SCT
D.O.	8.1	DO	~~5~~ 8.2	DO
Temperature	25° / 25°	SCT / DO	24° / 25°	SCT / DO

IN-SITU WAS TAKEN DRIFTING

STATION: JAX 6A-WJ(O)
DATE: September 27, 1982

JAX 6A-WJ(O) was located adjacent to the discharge weirs on the northeast side of Quarantine Island. Sampling was conducted 140 yards from the four discharge pipes at Latitude 30° 24' 03" N and Longitude 81°. 34' 50" W. Sampling proceeded smoothly and without incident except for phenols and pesticides sampling. Savannah Labs had sent one quart bottles with approximately one-inch diameter mouths and the caps did not have the manufactured aluminum seal in them. In order to properly store the sample, aluminum foil had to be placed over the mouth of the jar then capped. In order to fill these jars, without surface contamination, one of the standard phenol jars had to be filled, then poured into the wider mouth jars. Proper rinsing and contamination prevention steps were taken in all cases. This procedure was acceptable to Jim Andrews at Savannah Laboratories.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification JAX-6A WJ (0) cmd

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/27/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

Clear to partly cloudy, no rain, winds NNE @ 3-5 knots, temp. 65-70° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 29°c, cloud cover 50%, no rain, winds E @ 2-4 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves only a slight surface chop, no algal blooms, no turbidity plumes, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Only small vessel traffic, ~~B~~ 3 outfalls from ring dikes on Quarantine Island (150 m. away?), no dredging, birds, marsh + seabirds

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/27/82

Recorded by JDC

Water depth (ft) Twelve Feet

Client/Owner DER

Station Identification JAX-6Au

Collected by JC, JR, PB

Time (begin) 1605

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.4	2.2	DISC
Temperature	25° / 24.5	25° / 22°	THERM / SCT
Salinity	8.0 / 7.5	6.5 / 7.5	REF / SCT
pH	7.5	7.35	AM
D.O.	5.2	5.2	DO
Conductivity	121	122	SCT
Turbidity	4.6	4.35	TURB

INITIAL DO TEMP @ MID-DEPTH 26°
FINAL " " " " " 26°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	7.2	SCT	8.4	SCT
Conductivity	120	SCT	131	SCT
D.O.	5.5	DO	5.3	DO
Temperature	25° / 26°	SCT / DO	24° / 26°	SCT / DO

STATION: JAX 7A-WOJ

DATE: September 27, 1982

JAX 7A-WOJ was located at the confluence of the St. John's River and Blount Island channel at Latitude 30° 23' 10"N and Longitude 81° 33' 16" W. This station had previously be designated as an elutriate station but Joe Ryan decided to delete elutriate sample collection and move it to another location after discussions with Fred Calder.

The current was very strong during sampling of this station. The marker buoy was dragged under and later surfaced approximately 250 meters from its original location. A 10 kilogram weight was attached to the buoy. Mid-water sample collection was completed at a depth of approximately 13 feet, instead of 20 feet due to the strong current.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax-7A WOJ cm1

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/27/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

Clear to partly cloudy, no rain, winds NNE @ 3-5 kts temp. 65-70° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

~~waves under 1.0' w/surface chop~~, air temp. 24°C, 35% cloud cover, no rain, winds ENE @ 3-5 kts

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves under 1.0' w/surface chop, no algal blooms, no turbidity plooms, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, no dredging, seabirds, some small pleasure craft.

1.11 General Comments

Current is again exceptionally strong approx (5) kts

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/27/82

Recorded by JDC

Water depth 39 Thirty Nine

Client/Owner DER

Station Identification JAX-7B 7A WOJ cmd

Collected by JC, JR, PB

Time (begin) 1232

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.2	2.1	DISC
Temperature	25° / ~~25°~~	25° / 24°	THERM / SCT
Salinity	14 / 13.9	14 / 11.2	REF / SCT
pH	7.6	7.7 ~~7.6~~	AM
D.O.	6.8	6.9	DO
Conductivity	213	189	SCT
Turbidity	7.1	7.6	TURB.

INITIAL DO TEMP & PH [illegible] 26°
FINAL [illegible] ~~26°~~ 26°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	9.5	SCT	16.3	SCT
Conductivity	152	SCT	252	SCT
~(DO) ? fluctuating in current D.O.	8.0	DO	5.9	DO
Temperature	25° / 26°	SCT / DO	~25 / 26.0	SCT / DO

Water collection block hanging at about 13 feet because of very swift current.

In-situ taken at 35' (Bottom) Current very strong

STATION: JAX 8B-WJ(O)
DATE: September 25, 1982

JAX 8B-WJ(O) was located in Short Cut Turn north of Buck Island along the south side of the channel. The station was approximately 120 meters north northwest of channel marker "25" and approximately 300 meters north of the outfall from Buck Island. Station coordinates placed the station at Latitude 30° 23' 35" N and Longitude 81° 28' 35" W. Sampling of this station was difficult because of 15 knot winds along with a five knot current. The "dead-weight" line for mid-water sampling had to be weighted with 14 kilograms of weight in order to recover mid-water samples. When the marker buoy was cast into the water, before anchoring, the current pulled it under and it was not located until later the next day. Apparently, a salinity gradient (wedge) moved through during sampling as the S-C-T and refractometer showed final values much lower than the initial values. Sample and data collection was completed without incident.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax - 8B WJ(0) GW

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/26/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

25% cloud cover, no rain, winds from NNW @ 5 knots, fairly stable weather

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 27°C, 100% cloud cover, some sprinkling, winds NNW @ 5-10 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Wave fairly calm, no algal blooms, no turbidity plumes, foaming passing due to salinity wedge on the tide, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

only small pleasure craft passing, due N. of outfall on spoil island, no dredging, sea-birds on site

1.11 General Comments

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/25/82

Recorded by JDC

Water depth 42 Forty-Two

Client/Owner DER

Station Identification JA 8-8B

Collected by JC, JR, PB

Time (begin) 1913

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	3.2	3.0	DISC
Temperature	25° / 24°	25° / 25°	THERM / SCT
Salinity	32 / 27.1	30.5 / 22	REF. / SCT
pH	7.7	7.5	AM
D.O.	6.4	6.0	DO
Conductivity	422	350	SCT
Turbidity	7.4	~~5.6~~ 7.0	SCT

INITIAL DO TEMP @ MID-DEPTH 27°

FINAL " " " " " 27°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	22	SCT	28.9	SCT
Conductivity	350	SCT	442	SCT
D.O.	5.8	DO	6.4	DO
Temperature	26° / 27°	SCT / DO	[illegible] / 27°	SCT / DO

Note final salinity on SCT, a salinity wedge moved over us as we sampled. It was evident by the foaming on the surface as well as on the salinity.

No bottom temp. or SCT due to increasing current

STATION: JAX 10-SFJ
DATE: October 2, 1982

JAX 10-SFJ was located approximately 300 m west northwest of channel marker Buoys "81" and "82". The station was sampled mid-channel at Latitude 30° 19' 00" N and Longitude 81° 38' 24" W. The station location was moved 180 m south southeast of its previously designated location due to bottom scour. Data and sample collection proceeded without incident. Sediment was coarse to very coarse sand with some shell fragments and pebble layers (approximately one-quarter inch). No Atterburg samples were collected and the Lexan core was not used due to the sandy nature of the bottom material.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax-10 SFJ

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 10/2/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 3-5, partly cloudy, Temp. 62°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 25°C, 40% cloud cover, no rain, winds NNE @ 5-7 knots, cloudiness increasing st

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves nearly calm, no algal blooms, no turbidity plu no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

No outfalls, ships + dredges anchored throughout the area, no dredging, seabirds observed.

1.11 General Comments

Tide is going in at about 2-3 knots

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 10/2/82

Recorded by JDC

Water depth 41 Forty-One

Client/Owner DER

Station Identification Jax-10 SET

Collected by JC, JR, PB

Time (begin) 1025

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.1	2.3	Disc
Temperature	24° / 24.5°	24° / 24°	THERM / SCT
Salinity	5.0 / 4.8	5.0 / 5.9	REF. / SCT
pH	7.5	7.5	AM
D.O.	7.5	7.1	DO
Conductivity	100	99	SCT
Turbidity	8.5	?	TURB

INITIAL DO TEMP. @ MID-DEPTH 25°
FINAL " " " " " 24.9°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	3.2	SCT	6.0	SCT
Conductivity	55	SCT	100	SCT
D.O.	7.5	DO	7.2	DO
Temperature	25° / 24.8	SCT / DO	24° / 24.5°	SCT / DO

Turbidimeter is not working properly we were unable to get final readings

STATION: JAX 11-FJ
DATE: September 28, 1982

JAX 11-FJ was located southeast of the confluence of Dunn Creek with the St. John's River. The station was located approximately mid-channel at Latitude 30° 24' 24" N and Longitude 81° 35' 01" W. Bob Glassen and Lou Burnie were on board today. Upon arriving at the Marina, Bob Glassen noticed that the anchor and anchor line were missing. A spare, smaller, Dansforth anchor was on board, but there was not enough anchor line. New anchor line was purchased before departing the marina for sampling.

Upon anchoring at the station the current was observed to be strong and sampling was aborted temporarily. Station JAX 12-SFJ was sampled in the interim. Upon returning to Station JAX-11FJ the current was slack and sampling proceeded without incident. Recovered sediment was tan, fine to medium sand. The bottom was scoured in some areas. No Atterburg samples were taken as the bottom was sandy. The Lexan core was not used.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax 11 SFJ cm

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/28/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 3 knots, partly ~~cover~~, cloudy, air temp. 75°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 20°C, cloud cover 40%, no rain, ~~NE~~ winds NE @ 8-10 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves .5' wind chop, no algal blooms, no turbidity plumes, some foaming due to wave action, no surface oils etc

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Sandblasting at the sea wall E. of us 300 M., no dredging, no outfalls, no dredging, sea birds, barge passed within 100 M. in channel

1.11 General Comments

Anchored 300 m West of East Shore @ Broward PT. Turn.

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/29/82

Recorded by JDC

Water depth 40 Forty-Six

Client/Owner DER

Station Identification Jax 11 SFJ

Collected by JC, JR, PB

Time (begin) 1525

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.2		DISC
Temperature	25° / 23.5°	24.8° / 24°	THERM / SCT
Salinity	5.0 / 5.2	5.0 / 5.5	REF / SCT
pH	7.35	7.4	AM
D.O.	5.1	5.0	DO
Conductivity	90	91	SCT
Turbidity	7.1	7.4	TURB

INITIAL DO TEMP @ MID-DEPTH 25.5°
FINAL " " " " " 25.2°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	4.6	SCT	5.8	SCT
Conductivity	75	SCT	95	SCT
D.O.	5.3	DO	5.3	DO
Temperature	24° / 25°	SCT / DO	23° / 25.5°	SCT / DO

Water is dark here also but not due to turbidity but tannic in color.

Water collection line Ranged at about 15-20°

STATION: JAX 12-SFJ
DATE: September 28, 1982

JAX 12-SFJ was located approximately 365 meters south of the confluence of Nichols Creek and Blount Island channel. The station was located at Latitude 30° 24' 14" N and Longitude 81° 32' 53" W. Station location was changed from that set prior to the commencement of the fall sampling program. The previous location was 1800 m south southeast of the present location and near the confluence of Blount Island channel with the St. John's. Since the bottom was sandy near the confluence area the station was moved in order to locate finer grained material. Sampling was conducted within the channel along the western side. During sampling, two small shrimp boats were fishing in Blount Island channel. One shrimper came within 16m of the station which may have caused an increase in water turbidity. A stormwater runoff outfall was located approximately 500 m away on the east shore. Recovered sediments were loose, dark gray-black, silty fine sand, gelatinous, with a strong H_2S odor. The Lexan core sample indicated a stiff to medium stiff clayey material 46 cm below the water-sediment interface. Bob Glassen was on board today.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax. 12 SFJ Grid

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/28/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 3 knots, partly ~~cover~~, low air temp. 75°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air temp. 26°C, cloud cover 70%, no rain, NNE @ 10-12 knots; current 1 knot + running N.

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves 1'-2.0' and choppy, no algal blooms, no turbidity plumes, foaming due to wave action, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Stormwater outfall approx 500 m. on East shore, no dredging; Osprey was observed and salt marsh bird life

1.11 General Comments

Bay shrimper moved within 50' (he was actually shrimping). Electric plant discharge is 500 m. N of us.

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/25/82

Recorded by IC

Water depth 36 Thirty-Six

Client/Owner DER

Station Identification Jac. 12 SFJ

Collected by IC, JR, PB

Time (begin) 1311

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.0	2.2	Disc
Temperature	25° / 24°	25° / 25°	THERM / SCT
Salinity	~~11~~ 12 / 11.2	13 / 10	REF. / SCT
pH	7.4	7.4	AM
D.O.	5.5	5.6	DO
Conductivity	188	165	SCT
Turbidity	9.7	9.7	TURB.

INITIAL DO TEMP @ MID-DEPTH 25.8°
FINAL " " " " " 25.8°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	~~27~~ 9.8	SCT	12.8	SCT
Conductivity	160	SCT	208	SCT
D.O.	5.7	DO	5.3	DO
Temperature	24° / 25.5°	SCT / DO	25° / 26°	SCT / DO

Water collection line hanging @ about 20°

Turbidity high possibly due to shrimper?
Water is dark seemingly due to color - not turbidity?

STATION: JAX 13-SFJ

DATE: September 26, 1982

JAX 13-SFJ was located within the Dames Point-Fulton Cutoff Channel at the approximate mid-point of Blount Island. Specifically the station was located underneath the power transmission lines at Latitude 30° 23' 20" N and Longitude 81° 31' 50" W. The weather was threatening during data collection at this station. Due to current conditions mid-water sample collection was from 16 feet instead of 21 feet. The recovered sediment was primarily fine-medium, tan sand. During sampling one large ship and one barge passed near the sampling station.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jox. 13 SFJ CN

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/26/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air temperature)

Rain all night, winds NNE @ 15-20 knots, 100% cloud cover, temperatures in mid- to upper 60's F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 22.5°C, cloud cover 90% w/thunderheads, scattered showers all day, winds NNE @ 3-5 knots Current 2 knots (in coming tide)

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves nearly calm, no algal blooms, no turbidity plumes, no significant foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Many small fishing vessels in the area, no outfalls, no dredging, some birds associated w/ marshy areas. Ship docked @ Blount Island Term

1.11 General Comments

Anchored about 2000 ft up river from Blount Island terminal under powerlines about 200 M off the N shore of the river in the channel

ing ship large + passed ie yled.

1.12 Recorded by: JDC

Air temp. dropped while on station, approx 5°F winds picked up to 10-15 knots and current picked up to around 5 knots. Weather settling again almost 1630

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 9/26/82

Recorded by JDC

Water depth 48 Forty-Two

Client/Owner DCR

Station Identification JAX-135

Collected by JC, JR, PB

Time (begin)

Mid-Water collection is only @ 16' due to current holding collection block up in the water column

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.4	2.8	DISC
Temperature	24.5° / 27.8°	24.5° / 25°	THERM / SCT
Salinity	15 / 16.5	16 / 16.5	REF / SCT
pH	7.7	7.6	AM
D.O.	7.5	7.8	DO
Conductivity	212	268	SCT
Turbidity	3.6	4.6	TURB.

INITIAL DO TEMP @ MID-DEPTH 27.3°
FINAL " " " " " 28.0°

Physical Surface & Bottom

	Surface	Method	Bottom		Method
Salinity	13	SCT	23.5		SCT
Conductivity	212	SCT	370		SCT
D.O.	7.6	DO		7.5	DO
Temperature	25° / 27.1°	SCT / DO	25°	28.8°	SCT / DO

High tannic acid content contributed to low Secchi reading. Note low turbidity (showing color high)

~~No Bottom IN-SITU data due to very very strong current~~
Bottom readings were @ ~36' w/15 bilos on line for depth. Ex

STATION: JAX 14-X
DATE: October 2, 1982

JAX 14-X was located mid-way along Drummond Creek Cut at Latitude 30° 24' 11" N and Longitude 81° 36' 37" W. Tidal current was near five knots during sampling. The weighted line which supported the water collection tubing was weighted with 14 kilograms in order to hold the line vertical. Even with this load, the line scope was approximately 45°. The mid-depth elutriate water was collected from approximately 13 feet rather than 21 feet due to the current conditions at the time of sampling. Only four gallons of water were collected instead of 12 gallons as shown on the water column data sheet as the required quantity.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification JAX-14X

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) ~~9~~ 10/2/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air temperature)

No rain, winds NNE @ 3-5, partly cloudy, Temp. 62°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 24° C, cloud cover 85%, winds NE @ 5-10 knots, no rain

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

waves 1'-2' moderate chop, no algal blooms, no turbidity plumes, foaming due to wave action, no surface oils etc. Current better than 5 knots

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Small vessel traffic, no outfalls, no dredging, seabirds and marsh birds

1.11 General Comments

Anchor between buoy 60-59 in the channel 500 m off shore

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 10/2/92

Recorded by JDC

Water depth 42 Forty-Two

Client/Owner DGR

Station Identification Jax. 14 X

Collected by JC, JR, PB

Time (begin) 1520

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.2	2.3	DISC
Temperature	25° / —	24.5° / —	THERM / —
Salinity	11.0 / —	11.0 / —	REF / —
pH	7.4	7.4	AM
D.O.	—	—	—
Conductivity	—	—	—
Turbidity	—	—	—

Refractometer was mid-depth (13')

Physical Surface & Bottom

Final		INITIAL Surface	Method	Bottom	Method
9.0	Salinity	9.5	SCT	—	—
90	Conductivity	150	SCT	—	—
6.6	D.O.	6.7	DO	—	—
24°/26°	Temperature	24° / 25.5°	SCT / DO	— / —	— / —

Current is so strong that ~~a~~ bottom and mid-depth IN-SITU were impossible ~~all~~ w/probes hanging way up in the water column. (approx. 13')

Turbidimeter not working

STATION: JAX 15-WEJ
DATE: October 2, 1982

JAX 15-WEJ was located in Terminal Channel approximately 120 m northeast of channel marker Buoy "78". The station was located at Latitude 30° 20' 18" N and Longitude 81° 37' 21" W. This station was not designated prior to commencement of the field program but was established because of sediment grain size and/or scoured bottoms at the previously designated elutriate Stations (JAX 2A-WOJ and JAX 7A-WOJ). Fred Calder was aware of and authorized the designation and sampling of this station. Data collection and sampling proceeded smoothly except that the turbidimeter would not properly calibrate and consequently no turbidity determinations were made at this station.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax-15 WEJ

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 10/2/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 3-5, partly cloudy, Temp. 62° F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 26°C, cloud cover 75%, no rain, winds ENE 3-5 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

Waves slight surface chop, no algal blooms, no turbidity plumes, no foaming, no surface oils etc. Current slack @ 1/2 knot

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Small vessel traffic, no outfalls, no dredging seabirds observed.

1.11 General Comments

Anchored between buoys 78-77 in the channel, more towards the W side of the channel approx. 400 m. from W. shore

1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 10/2/92

Recorded by JDC

Water depth 32 Thirty-two

Client/Owner DER

Station Identification JAX. 15 EU

Collected by JC, JR, PB

Time (begin) 1236

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.0	2.1	DISC
Temperature	24° / 24°	24° / 24°	THERM / SCT
Salinity	9.0 / 9.5	10.0 / 9.4	REF / SCT
pH	7.45	7.60	AM
D.O.	5.8	5.7	DO
Conductivity	158	151	SCT
Turbidity	—	—	TURB

INITIAL DO TEMP. @ MID-DEPTH 24.8°
FINAL " " " " " 25°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	6.5	SCT	10	SCT
Conductivity	102	SCT	152	SCT
D.O.	6.1	DO	~~[illegible]~~ → 5.8	DO
Temperature	24° / 25°	SCT / DO	24° / 25°	SCT / DO

No turbidity readings because instrument does not work properly.

STATION: JAX 16-S
DATE: October 2, 1982

JAX 16-S was located in Long Branch Cut due east of the fuel off loading docks at Kennedy Power plant. The station was located at Latitude 30° 21' 52" N and Longitude 81° 37' 19" W. The power plant thermal outfall was located approximately 110 m due west of the sampling location. No turbidity determinations were made at this station as the turbidimeter would not properly calibrate. Mid-depth salinity with the refractometer and mid-depth pH were not taken at this station as it was an "add-on" station replacing the Spring Station JAX-2A. Mid-depth "in-situ" data were collected using the electronic equipment. Recovered sediments were primarily silty with some clays with a thin layer of sand over laying silt at the water/sediment interface. The Lexan core sample indicated sediments underlying the surface silts and clays to be variable in texture and color from white, limey clay to silty sands.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

1.1 Location (Port/Harbor) Jacksonville

1.2 Station Identification Jax - 16 S

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 10/2/82

1.6 Observation by: JDC

1.7 Previous Nights Weather (to include rainfall, wind conditions, cloud cover, sharp drops in ambient air termperature)

No rain, winds NNE @ 3-5, partly cloudy, Temp. 62°F

1.8 Meteorological Conditions on Station (to include ambient air temperature, cloud cover, rainfall, wind conditions)

Air Temp. 26.5° C, 100% cloud cover, no rain, winds NNE @ 3-5 knots

1.9 Water Conditions (to include general observation of wave climate, algal blooms, turbidity plumes, foaming, surface oils, etc.)

wave slight chop, no algal blooms, no turbidity plumes, no foaming, no surface oils etc.

1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)

Small vessel traffic in channel, many small outfalls and large discharge from power plant. Dredging done approx. 1 year ago (per guard on dock)

1.11 General Comments

Some seabirds.

Anchored right @ the fuel off loading dock at power plant (KENNEDY Power Plant (JEA)).

1.12 Recorded by: JDC

Between dolphin + off loading dock at the discharge area. 10-20' off dock

IN - SITU DATA RECORD SHEET

Job number 12739-004

Location (Port/Harbor) Jacksonville

Date (Month, day, year) 10/2/82

Recorded by JDC

Water depth ~~38~~ Thirty-Eight

Client/Owner DER

Station Identification Jax. 16 S

Collected by JC, JR, PB

Time (begin) 1343

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.8	1.7	DISC
Temperature	— / 24°	— / 25°	~~REF~~ / SCT
Salinity	8.0 / 11	9.0 / 9.8	REF / SCT
pH	—	—	—
D.O.	5.7	6.9	DO
Conductivity	178	151	SCT
Turbidity	—	—	TURB.

THIS REF. READING WAS TAKEN AT SURFACE NO MID-DEPTH

INITIAL DO TEMP. @ MID-DEPTH 24.8°

FINAL " " " " " 25.0°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	9.8	SCT	11.2	SCT
Conductivity	160	SCT	181	SCT
D.O.	5.4	DO	6.0	DO
Temperature	25° / 25°	SCT / DO	24° / 25°	SCT / DO

Turbidity not taken.

INITIAL ph @ Surface was 7.7, FINAL ph @ Surface 7.3

~~Final MID-DEPTH DO is incorrect instrument malfunction~~

DO (Final) high, tide is going out current is reckoning no.

STATION: JAX 17-S
DATE: September 29, 1982

Station JAX 17-S was located in the Terminal Channel at latitude 30° 21' 06" N and longitude 81° 37' 08" W. Only sediment samples were collected at this station. In-situ data was not collected at this station because of the proximity of and short time lapse between sample collection at this station and station JAX 3A-FWE(O).

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