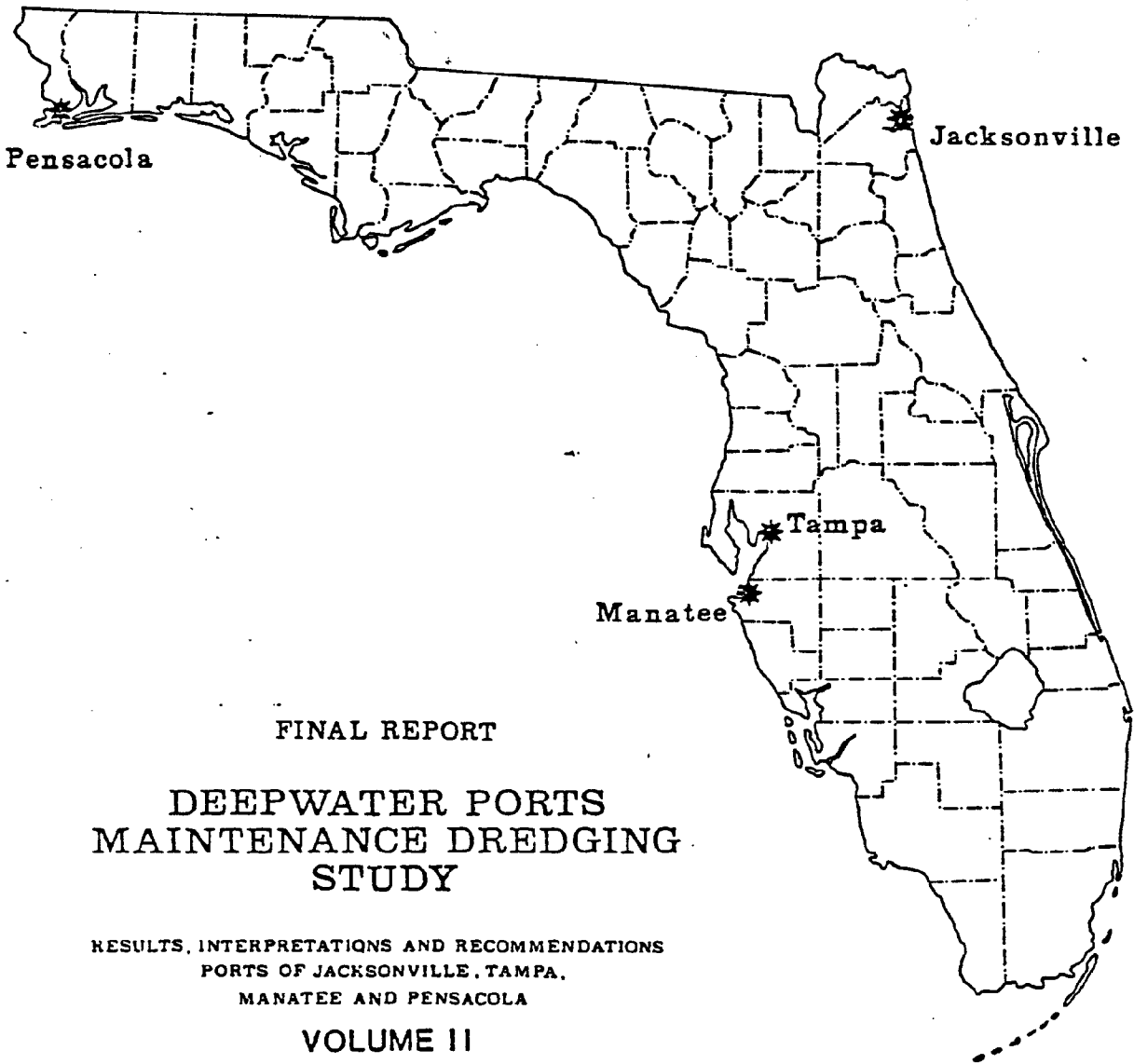


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PROPOSAL #4.1



FINAL REPORT
**DEEPWATER PORTS
MAINTENANCE DREDGING
STUDY**

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

VOLUME II



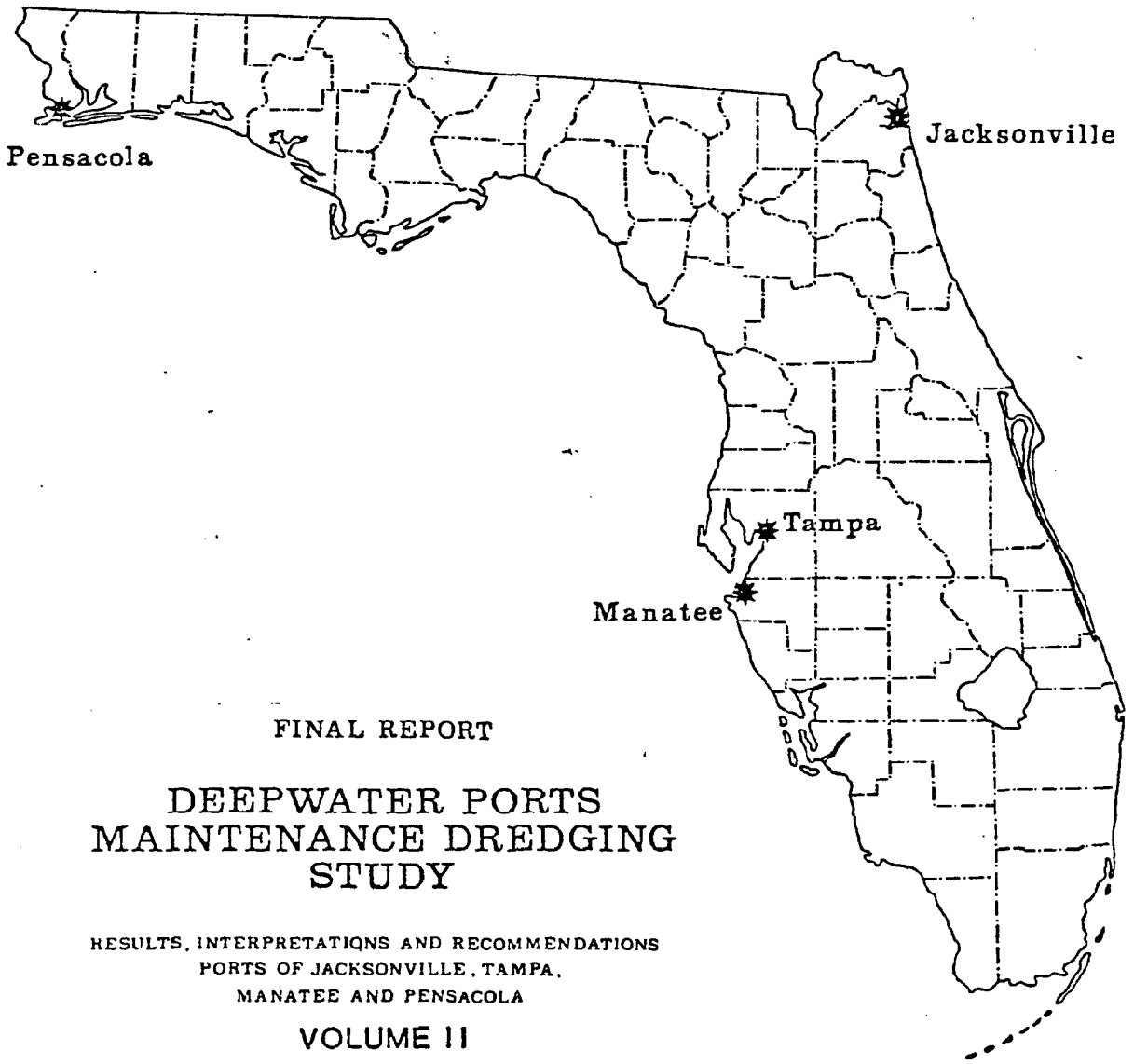
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
OFFICE OF COASTAL MANAGEMENT

DAMES & MOORE
BOCA RATON, FLORIDA
MAY 1983

FL. Department of Environmental Regulation

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FINAL REPORT

**DEEPWATER PORTS
MAINTENANCE DREDGING
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VOLUME II



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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
- APPENDIX C: FALL/WET SEASON LABORATORY ANALYSIS RESULTS
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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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>μg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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

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

<u>Sediment Sample</u>	<u>pCi/g (dry basis)</u>
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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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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SÉDIMENT RESULTS - Sample ID TPA 6B

Replicate Sample

ppm (dry basis)	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 _i	0.09	0.09	0.08
<u>ug/liter</u>			
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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>ug/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>ug/liter</u>			
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

Replicate Sample

ppm (dry basis)	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

ug/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
<u>µg/liter</u>			
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)			

SAVANNAH LABORATORIES
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SEDIMENT RESULTS - Sample ID JAX 3A

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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)

ug/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
<u>ug/liter</u>			
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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	I	II	III
Aluminum	970	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

Replicate Sample

ppm (dry basis)	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
<u>µg/liter</u>			
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

Replicate Sample

ppm (dry basis)	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)			

**SAVANNAH LABORATORIES
AND ENVIRONMENTAL SERVICES**
P.O. Box 13842 • Savannah, Ga. 31406 • 912/354-7858

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
<u>µg/liter</u>			
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 H₂S.

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

James F. Hutto 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 landfall) approx. 10 knot windspeed
Temperature 29°C

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE

HEIGHT, 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/ barge assist. Same ship docking and anchoring 100 yds from PNS-1. Ship moving to dock app. 400 yds parallel to the outer station

GENERAL COMMENTS:

1 other small boat passed through the area

DFH 4/27/82

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-1

COLLECTED BY: (SIGN & DATE)

DATE: 4-27-82

All Constant 4-27-82
 [Signature]

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

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. UOHMS	TURBID NTU
	ARRIVE: 1103	32'	ARRIVE: LOST	22° C (YSH DO)	INITIAL: 31 REF.	INITIAL: 6.2-?	6.6	320	ARRIVE: 4.8
	DEPART: 1310	33'	DEPART: PNS-3	24° C 23° C (SCT)	23 SCT FINAL: 32 REF.	8.0 FINAL: 8.1			DEPART:

<u>CHECK WHEN COLLECTED:</u>	<u>REPLICATE</u>	<u>1</u>	<u>2</u>	<u>3</u>
METALS (3.2.3) 6-1/2 L.		✓	✓	✓ (6 1/2 L SAMP)
BOD, F, TSS (3.2.4)		✓	✓	✓
NH ₄ (3.2.5)		✓	✓	✓
PESTICIDES (3.2.7)		✓	✓	✓
*PHENOLS (3.2.8)		✓	✓	✓ } 9 B 30

SEDIMENTOLOGY

<u>CHECK WHEN COLLECTED:</u>	<u>REPLICATE</u>	<u>1</u>	<u>2</u>	<u>3</u>
TS, TOC, METALS, ETC. (3.3.3)		✓	✓	✓
PCB, PEST., OIG, PHENOLS (3.3.4)		✓	✓	✓
ATTERBURG SAMPLES		✓	✓	✓

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

BENTHOS DATA FORM
Card 1

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

Station PNS-1 12-13 Sample No. PNS-1 River Mile 17-19
14-16

Time Code 1 20 Time 1235 Depth Units Code 25
21-24

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

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

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

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

Time Code 0 = CDT Depth Units 1 = Meters Sample Container Subst. Type
① = CST ② = Feet

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

BEN R₁ _____
BEN R₂ _____
BEN R₃ _____

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

Checked by Carol F. Hines

Date 4-27-82

Date 4/27/82

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 in fact 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.

Demetrius H. Harts
4/27/82

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 nearby in

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.):

≡° 25.5 °C

40-45% CLOUD COVER

WIND SOUTHWEST 15-20 KTS.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE

HEIGHT, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

SEAS 1-1.5'

NO PLUMES, BLOOMS, FOAMING

SPOADIC WHITE CAPS

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER

OUTFALLS, ETC.):

NO OUTFALLS

NO CHIEF TO AREA

GENERAL COMMENTS:

NO OBSERVATIONS TO REPORT

Samuel F. Houtz
 4/27/82

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Part of Pensacola

STATION NUMBER: PMS-2(B)^{DPH}

COLLECTED BY: (SIGN & DATE)

DATE: 4-26-82

J.C. PA, DPH, 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:		16.0' ARRIVE:		INITIAL:	INITIAL:			ARRIVE:
	1547		16.0'	21.0°C	32 REF.	7.6	6.7	3.60	1.1
	DEPART:		16.0'		SET 28	FINAL:			DEPART:
	1815		16.0'		33 REF.	9.0			

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

✓ ✓ ✓

BOD, F, TSS (3.2.4)

✓ ✓ ✓

NH₄ (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" PENSAR

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.

Daniel F. Hunter
4/27/82

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: Port of Pensacola

STATION NUMBER: PNS-3(C)^{DEH}

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

HEIGHT, 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
~~" ship 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

Carroll F. Howitz
 4/27/82

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

PORT/HARBOR NAME: Part of Peninsular

STATION NUMBER: PMS-3(C)^{DEH}

COLLECTED BY: (SIGN & DATE)

DATE: 4-27-82

Carroll F. Howitz 4-27-82

Water Depth 20'0

WATER QUALITY

TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND MOHMS	TURBIDITY NTU
ARRIVE: 08:40	20'	ARRIVE: WOST SECCHI	22° C	INITIAL: 32.5 REF	INITIAL: 8.2	6.7	390	ARRIVE: 1.0
DEPART: 1031		DEPART:	20° C (SCT) 21° C YSI PO	FINAL: 33 REF	FINAL: 8.1			DEPART:

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

✓ ✓ ✓

BOD, F, TSS (3.2.4)

✓ ✓ ✓

NH₄ (3.2.5)

✓ ✓ ✓

PESTICIDES (3.2.7)

✓ ✓ ✓

*PHENOLS (3.2.8)

✓ ✓ ✓

} 3 additional
bottle
filled
9 total

SEDIMENTOLOGY No sediments collected at PMS-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 1992 04 27 (yr,mo,day) 4-9 Site PAIS-3 10-11

Station PAIS-3 12-13 Sample No. PAIS-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 HUNTER BOWEN 32-34

Substrate Type SAND (MED. TO FINE) 35-36 Coll. Dev. 9" X 9" PERIAR 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 Sample Container Ty

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

Investigators JP, PB, AN, JHW

Time stop 1017

Time start 0950

Total

BEN R1

BEN R2

BEN R3

Notes: Some organisms smaller than mesh size went through
Remains small polychaetes were observed swimming through 1/2 inch mesh

Prepared by JEFF CONSTANT Date 4-27-82

Checked by Danell E. Hutto 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.

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 HEIGHT, 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:

cancel/letter

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 1(A)

COLLECTED BY: (SIGN & DATE)

DATE: 5-14-82

R. D. H. P. B., Jeff Constant
 5-14-82

WATER QUALITY Mid-depth data in table

T.T.O.M.	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	CONDUCT. MOHMS	TURBIDITY NTU				
35.0	ARRIVE:	38.0	ARRIVE: NO DATA	Atm. Air	INITIAL: 33.0 (REF)	INITIAL: 8.2	3.2	368	ARRIVE: 8.5				
430	0925			19.8°C (DO)						25°C (PC)	FINAL: 26.0 (REF)	FINAL: 8.1	DEPART:
2.8	DEPART:			24.2°C (SCT)						26.0 (REF)	1033		
9. 24.8°C (DC)													
26.0°C (SCT)													
free													
33.0													
362													
4.0													
up. 25°C (DO)													
24°C (SCT)													

CHECK WHEN COLLECTED:

REPLICATE

1

2

3

METALS (3.2.3)

✓

-

-

} #7 total

BOD, F, TSS (3.2.4)

-

-

-

NH₄ (3.2.5)

-

-

-

PESTICIDES (3.2.7)

-

-

-

*PHENOLS (3.2.8)

-

-

-

} 9 total

SEDIMENTOLOGY | Atterberg, | for Kaw Eng.

CHECK WHEN COLLECTED:

REPLICATE

1

2

3

TS, TOC, METALS, ETC. (3.3.3)

-

-

-

H₂SO₄
 Odiferous

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

-

-

-

man worked

9" was unsuccessful

B-16
 ECKMAN PONAR

SAMPLING EQUIPMENT (FILL IN):

Quip Ponar, Loran Cais

instruments 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 1/2 hr. from dark + ...

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.

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

HEIGHT, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

Waves 0-0.5 ft. at surface chop, no algal plumes,
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:

James P. [Signature]

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

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 2(A)

COLLECTED BY: (SIGN & DATE)

DATE: 5-13-82

J.P., D.H., M.B., J.M. [Signature]
 5-13-82

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

Bottom
 Sal. 32.5
 T. 3.9
 COND. 360
 Temp. 24.2°C (D)
 24.4°C (SCT)
Surface
 Sal. 30.8
 T. 5.2
 Cond. 365
 Temp. 24.5°C (D)
 25°C (SCT)

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBID NTL
	ARRIVE: 1458	9.0	ARRIVE: NO DATA	AM. AIR 24°C (D) 23°C (SCT)	INITIAL:	INITIAL: 8.0			ARRIVE: 15.6
	DEPART: 1720		DEPART:		FINAL: 28.0 (REF)	FINAL: 8.1			DEPART:

CHECK WHEN COLLECTED:

REPLICATE

	1	2	3	6
METALS (3.2.3)	-	-	-	3 to
BOD, F, TSS (3.2.4)	-	-	-	
NH ₄ (3.2.5)	-	-	-	
PESTICIDES (3.2.7)	-	-	-	9 to
*PHENOLS (3.2.8)	-	-	-	

SEDIMENTOLOGY | *Atterberg, 1 for low*

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): 9x9" *Prosser, Lipton Power*

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.

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 ~~40%~~ 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

HEIGHT, 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 ~~anchored~~ moored @
TECO docks w/ tug assist some movements around
dock. Tug with barge forced us off station we returned
and finished sampling.

GENERAL COMMENTS:

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Tampa Bay

STATION NUMBER: TPA 3(B)

COLLECTED BY: (SIGN & DATE)

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

~~P.B., J.R., D.H., J.P. Conner~~
 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 because passed time re-stationing)

BOTTOM
 Temp. 24.8°C
 Sal. 4.0
 Sp. 26.2
 Cond. 340

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBID. NTU
ARRIVE:	1025	30'	ARRIVE: NO DATA	24°C	INITIAL: 28.0 (S.T.)	INITIAL: 8.0	4.2	370	ARRIVE: 14.5
DEPART:	1225		DEPART:		29.0 (REF.) FINAL: 27.0 REF	FINAL: 8.0	4.2		DEPART: 20

SURFACE
 Temp. 25.0°C
 Sal. 5.2
 Sp. 28.0
 Cond. 370

CHECK WHEN COLLECTED:	REPLICATE			Total
	1	2	3	
METALS (3.2.3)	/	/	/	3
BOD, F, TSS (3.2.4)	-	-	-	
NH ₄ (3.2.5)	-	-	-	70 dmm
PESTICIDES (3.2.7)	/	/	/	
*PHENOLS (3.2.8)	/	/	/	

SEDIMENTOLOGY 1 Atterburg, 1 for Law

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, H₂SO₄ very gelatinous

SAMPLING EQUIPMENT (FILL IN):
 1.0' of dark gray silty sand
 2.0' of olive green clay or s.c.l.
 3.5" silt core with olive

7.5" of dark gray-black silty sand
 R-22 very cohesive

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.

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
HEIGHT, 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 sheen
looks like paint

James R. White

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa

STATION NUMBER: TPA 4(13)

DATE: 5-12-82

COLLECTED BY: (SIGN & DATE)

DR. J. R. White
 5-12-82

WATER QUALITY Mid depth in table

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBIDITY NTU
TOM 25.0 370 + 2.0 25.0 face 24.5 360 5.8 25.5°C	ARRIVE: 1337 DEPART: 1450	30.0	ARRIVE: NO DATA DEPART:	Am. W. water 34° 24° C 25° C (OUT)	23.0 (REF) INITIAL: 25.0 24-25.0 FINAL: 28.0 (REF)	INITIAL: 7.8 FINAL 8.0	2.2	369	ARRIVE: 9.0 DEPART:

<u>CHECK WHEN COLLECTED:</u>	<u>REPLICATE</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
METALS (3.2.3)		=	=	=	=	=	total
BOD, F, TSS (3.2.4)		-	-	-			
NH ₄ (3.2.5)		-	0	-			no ammonia
PESTICIDES (3.2.7)		-	-	-			
*PHENOLS (3.2.8)		-	-	-			

SEDIMENTOLOGY

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

B-26

SAMPLING EQUIPMENT (FILL IN): 9" x 9" Ponar, Rebar Pover
 Sediment is black to dark gray fine silty sand w/a petroleum, sch. no. H-50. substances

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.

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

HEIGHT, ALGAL BLOOMS, TURBIDITY PLUMES, FOAMING, ETC.):

Wave height ~~1-2~~ 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:

Daniel R. White

U.S. DEPARTMENT OF COMMERCE
 U.S. COAST AND GEODETIC SURVEY
 MAINTENANCE DREDGE STUDY
 12739-004

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)

DR. J.R. Dill, Jeff Lenoir
 5-13-82

WATER QUALITY Data on table is mid-depth

OTTOM
 Sal. 23.5 (SCT)
 DO. 4.6
 DO. 3.60
 TEMP. 24°C (YSI)
 24°C (SCT)
~~SURFACE~~
 Sal. 23.0 (SCT)
 DO. 5.2
 DO. 3.50

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBID. NTU
	ARRIVE: 1100	13	ARRIVE: NO DATA	24°C 24°C (SCT)	INITIAL: 23.0 (SCT)	INITIAL: 8.2	5.2	350	ARRIVE: 12.5
	DEPART: 1255		DEPART:	24°C (YSI)	FINAL: 27.0 (PE)	FINAL: 8.1			DEPART:

SURFACE
 Sal. 23 (SCT)
 DO. 5.2
 DO. 3.50
 Temp. 24°C (YSI)
 24.5°C (SCT)

<u>CHECK WHEN COLLECTED:</u>	<u>REPLICATE</u>	<u>1</u>	<u>2</u>	<u>3</u>
METALS (3.2.3)		/	/	/
BOD, F, TSS (3.2.4)		/	/	/
NH ₄ (3.2.5)		/	/	/
PESTICIDES (3.2.7)		/	/	/
*PHENOLS (3.2.8)		/	/	/

6 to
no ammonia

SEDIMENTOLOGY | Attenuating, 1 hour collected

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

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

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

James P. Harte

BENTHOS DATA FORM
Card 1

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

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

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

Depth of Sample 13.0 Investigator DR, JR, PB
 26-31 32-34

Substrate Type Grey silty sand Coll. Dev. 9"X9" Ponar Sieve Code 0.5
 35-36 37-38 39-40

Preservative Formalin Meter Start _____ Meter Stop _____
 41-42 43-49 50-56

Time of tow min. _____ Sec. _____ Tide _____
 57-59 60-61 70

Time Code 0 = CDT
 1 = CST
 EST

Depth Units 1 = Meters
 2 = Feet

Sample Container Subst. Type

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

Investigators PB, DR, JR, AC

Time stop 1235

Time start 1200

Total _____

BEN R1
 BEN R2
 BEN R3

Notes: Sediments are bot gray to dark grey very silty sticky
fine sand

Prepared by J.P. Conitant 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.

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

HEIGHT, 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:

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: Port of Tampa
STATION NUMBER: TPA 6(B)
DATE: 5-14-82

COLLECTED BY: (SIGN & DATE)
 [Signature] 5-14-82

WATER QUALITY Mid-depth data on table

Bottom
 Sal 30.8
 Cond. 372
 Temp. 24.2 (DC)
surface
 Sal. 31.0
 Cond. 362
 Temp. 24.8°C (SCT)
 25.4°C (DO)

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MUHMS	TURBID NTU
	ARRIVE: 1140	33'	ARRIVE: NO DATA	AM. AIR 27.4°C (SCT)	INITIAL: 26 (REF)	INITIAL: 8.1	3.6	371	ARRIVE: 4.5
	DEPART: 1245		DEPART:	25°C (DO) 24°C (SCT) 26°C	FINAL: 27.0 (REF)	FINAL: 8.0			DEPART:

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

✓ - - } total

BOD, F, TSS (3.2.4)

- - -

NH₄ (3.2.5)

- 0 - } no conc

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.

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.):

59: cloud cover, wind E @ 10 knots, Air Temp. 28.5

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

Seas 1'-2' and swell w/ chop on surface, no algal plume
no turb. plumes, no foaming

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

No outfalls

Small small pleasure craft passing

GENERAL COMMENTS:

Doreen F. Hertz

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *Jampa Bay*

STATION NUMBER: *Jpa. 7 (c)*

DATE: *5-10-82*

COLLECTED BY: (SIGN & DATE)

P.B. OR, Jeff Constant
5-10-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBIDITY NTU
ARRIVE:	1130	26'	ARRIVE:	29° C (AIR-DO)	INITIAL:	INITIAL:	5.5	440	ARRIVE:
DEPART:	1300		DEPART:	21° C (WATER) 24° C (DO)	30 (OCT) 35 (REF) 35 (REF)	6.8 8.0			1.3

CHECK WHEN COLLECTED:

24° C
 21° C REPLICATE

	1	2	3	
METALS (3.2.3)	=	=	=	} 6 met.
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.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: Port of Manatee

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,
37% cloud cover

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE

HEIGHT, 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:

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, CR
 5-11-82

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

SURFACE	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	DO (mg/l)	COND. UOHMS	TURBID NTU
Temp. 25.5°C	ARRIVE: 1310	32.0	ARRIVE: NO DATA	AIR 24.5°C	INITIAL: 37.0 (SEC)	INITIAL: 7.9	4.6	430	ARRIVE: 8.1
37.5 (YSI)	DEPART: 1448	36.0	DEPART:	25°C (PO)	FINAL: 33.9 (RGT)	FINAL: 7.8	Bottom	DEPART: 420	
4. 35 (YSI)				27°C	34.0 REF				
Cond. 420									

Temp. 25°C

CHECK WHEN COLLECTED:	(YSI)	25°C	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)				-	-	-

6 to 9 to

SEDIMENTOLOGY 1 Atterberg, 1 Laws

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, Havan Cover
 H₂S₂, Odorous, 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.

Daniel F. Houston

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *Port Manatee*

STATION NUMBER: *Man. 2(13)*

DATE: *5-11-82*

COLLECTED BY: (SIGN & DATE)

P.B. Dill, Jeff Constant
5-11-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURB. NT
	ARRIVE: <i>1055</i>	<i>33.0</i>	ARRIVE: <i>NO DATA</i>	Am. Air <i>24.5°C</i>	INITIAL: <i>36.5 (SCT)</i>	INITIAL: <i>6.6</i>	<i>5.4</i>	<i>420</i>	ARRIVE <i>7.5</i>
	DEPART: <i>1242</i> <i>1235</i>		DEPART: <i>24.5°C (100)</i>	<i>25.0°C</i>	FINAL: <i>34.0 (ROF)</i>	FINAL: <i>6.6</i>			DEPART

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

BOD, F, TSS (3.2.4)

NH₄ (3.2.5)

PESTICIDES (3.2.7)

*PHENOLS (3.2.8)

✓ *-* *-* } *6*

SEDIMENTOLOGY *1 sample for Aittsburg, 1 sample for Law*

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

L. Core tube box noted
@ bottom of gray TS, TOC, METALS, ETC. (3.3.3)

by w/ 8" of black PCB, PEST., O&G, PHENOLS (3.3.4)
sediment fine sand @ top

- *-* *-*

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

High H₂SO₄ & odor from sediment,
Black to gray fine silty sand, w/ petroleum sheen

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: *Port of Manatee*

STATION NUMBER: *Man 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

HEIGHT, 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.

[Handwritten mark]

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. Johns River

STATION NUMBER: Jox. 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

HEIGHT, 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.):

~~Several~~ Several small pleasure craft,
large crossing 250 yds. away from Jox. 1(B)
~~August~~

GENERAL COMMENTS:

CPH

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET.

PORT/HARBOR NAME: *St. Johns River*

STATION NUMBER: *Gay, 1 (B)*

DATE: *4-30-82*

COLLECTED BY: (SIGN & DATE)

P.B. [Signature], Jeff Contract 4-30-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND MOHMS	TURBID NT
ARRIVE:	<i>1132</i>	<i>10.0</i>	ARRIVE:	<i>22° C</i>	INITIAL:	INITIAL:	<i>7.4</i>	<i>60</i>	ARRIVE:
			<i>NO DATA</i>	<i>(SCT)</i>	<i>4.0 REF</i>	<i>7.3</i>			<i>11.5</i>
DEPART:	<i>1343</i>		DEPART:	<i>22° C</i>	FINAL:	FINAL:			DEPART:
				<i>(DO)</i>	<i>5.0 REF</i>	<i>7.3</i>			

CHECK WHEN COLLECTED:

REPLICATE

METALS (3.2.3)

BOD, F, TSS (3.2.4)

NH₄ (3.2.5)

PESTICIDES (3.2.7)

*PHENOLS (3.2.8)

	<u>1</u>	<u>2</u>	<u>3</u>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	} 3 or less
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

SEDIMENTOLOGY

CHECK WHEN COLLECTED:

REPLICATE

TS, TOC, METALS, ETC. (3.3.3)

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

Physical sediment taken w/ H. cover -
2 Atterburg samples also taken using Hesperan cover

SAMPLING EQUIPMENT (FILL IN):

*9" x 9" Ponar
 Hesperan cover*

074

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 R. PB, D71 32-34

Substrate Type Med. Fin. Sand 35-36 Coll. Dev. 9" X 9" PONAR 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 (EST circled) Depth Units 1 = Meters 2 = Feet Sample Container Subst. Type

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

Investigators R. PB, D71, PB

Time stop 1240

Time start 1315

Total _____

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

Prepared by Jiff Constant

Date 4-30-82

Checked by James F. Hoot

Date 4/30/82

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

JAX 2 was established beneath the north center portion of the Commodore'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, ebbing currents allowed our equipment to hang almost vertically in the water column. Water quality sampling proceeded in an orderly fashion. Sedimentology 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.

77

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. John's River (Commodore 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 ~~west~~ 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

HEIGHT, 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 material
such as leaves, stems and wood floating in current

DEB

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: St. Johns River (Commodore Point Bridge - 700
in char
 STATION NUMBER: Jay. 2A COLLECTED BY: (SIGN & DATE)
 DATE: 4-29-82 Jeff Constant, PB, NJ
4-29-8

28.0 Water Depth

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBID. NT
	ARRIVE: 1550	28.0	ARRIVE: NO DATA	22°C (DE)	INITIAL: 9.0 (SCT)	INITIAL: 7.2	6.0	85	ARRIVE: 11.6
	DEPART: 1807		DEPART:	22°C (SCT)	6.0 (REF)	FINAL: 8.0			FINAL: 8.0
				18°C	2.0 REF.	CURNING			

CHECK WHEN COLLECTED:	REPLICATE	7.0 (AM)		
		1	2	3
METALS (3.2.3)		✓	✓	✓ } 3 no 3 same
BOD, F, TSS (3.2.4)		✓	✓	✓
NH ₄ (3.2.5)		✓	✓	✓
PESTICIDES (3.2.7)		✓	✓	✓ } 9 E 1 col 3 a
*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)		✓	✓	✓

~~No Atterburg samples taken due to very sandy sed.~~

SAMPLING EQUIPMENT (FILL IN): # 9" x 9" Ponar
 Atterburg sample is somewhat different than the sediment for
 Atterburg is silty fine sand
 R49

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: Jox. 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

HEIGHT, 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 ~~quite~~ slight, tide is probably on swing back.
and current is picking up

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER

OUTFALLS, ETC.):

Very large ship docked 225 yds. ~~up~~ downstream (Next
Sewage outfall within 50 ft. of this station Jox.
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 Jox. 3 (A)
Large petroleum ship (250 ft.) passed within 75-100 yds. of
Jox. 3 (A)

JEH

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Jox. 3(A)*

COLLECTED BY: (SIGN & DATE)

DATE: *4-30-82*

PB, NFA, and Jeff Constant
4-30-82

Water depth 34.0'

WATER QUALITY

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

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

 } 3 additional bottles
6 total

BOD, F, TSS (3.2.4)

NH₄ (3.2.5)

PESTICIDES (3.2.7)

*PHENOLS (3.2.8)

 } 3 additional bottles
9 total

Bottom recovery w/ Loran cover there was a visible petroleum sheen in sample and a strong odor of Petroleum. Loran cover had good recovery in this silty black to dark green sediment

SEDIMENTOLOGY

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/ Loran cover
~~and~~ for Attelburg w/ Loran cover

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

Loran cover for Attelburg grain size

rigboat idling about 75 yds. from Jox 3(A) during #1 replicate sediment sample.

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 Chaseville 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.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Fox. 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.):
^{50%}
~~35%~~ cloud cover, wind from SE ~~5-10 knots~~ & gusting
to 10. Air Temp. 24°C.

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE

HEIGHT, 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 priv. term. 40-50 yds
away from Fox. 4(B) also 5 large ships anchored in
channel (Chesville Turn) 2 large ship passing in channel

GENERAL COMMENTS:

Handwritten initials

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Gay. 4 (13)*

DATE: *5-1-82*

COLLECTED BY: (SIGN & DATE)

P.B., D.H. JR., J.H. Conate
5-1-82

Water Depth 35.0

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MOHMS	TURBID NTU
	ARRIVE: <i>11 47</i>	<i>35.0</i>	ARRIVE: <i>NO DATA</i>	<i>24.0° C</i>	INITIAL: <i>20.0 REF.</i>	INITIAL: <i>5.0</i>	<i>5.6</i>	<i>260</i>	ARRIVE: <i>11.5</i>
	DEPART: <i>13 20</i>		DEPART:	<i>23.0° C</i>	<i>20.0 REF.</i>	<i>7.0</i>			DEPART:
				<i>SCT</i>	<i>26.0 SCT</i>	FINAL: <i>8.5</i>			FINAL: <i>3.0</i>

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

 30% 5 for

BOD, F, TSS (3.2.4)

NH₄ (3.2.5)

 7

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

attitude of taken
SAMPLING EQUIPMENT (FILL IN): *9" X 9" Ponar. Rebar Ponar*

Some samples taken w/ Ponar were expelled because of quantity. Shelly layering material was present inhibiting the Ponar 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.

BT

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET.

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Jay. 5(B)*

COLLECTED BY: (SIGN & DATE)

DATE: *5-1-82*

PB, DH, JA, JH, Coats
5-1-82

* Pumping clamp is not sufficiently weighted to hold clamp perpendicular to surface, it is at about 45°. Sample taken @ abt 14.0 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	2.20	ARRIV 11.6
	DEPART: 1525		DEPART:	21° C (DO)	22.0 SCT FINAL: 16.0 REF.	FINAL: 8.0			DEPA

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

*

METALS (3.2.3)

✓ ✓ ✓ } 3 with
3 bottles

BOD, F, TSS (3.2.4)

✓ ✓ ✓

NH₄ (3.2.5)

— — — } no
NH₄

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 Atterburg
 1 grain size sample
SAMPLING EQUIPMENT (FILL IN): *9" x 9" Ponar*

Trid Lapan Cover unsuccessfully

JP

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Sta. 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 HEIGHT, 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 immediately 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 retrieval 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.

CR

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Box 6 (A)*

DATE: *5-2-82*

COLLECTED BY: (SIGN & DATE)

PB, DR, JR, Jeff Constant
5-2-82

*Water depth 10.0'
 Sample taken @ mid-depth*

WATER QUALITY

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

CHECK WHEN COLLECTED:

REPLICATE

	1	2	3	
METALS (3.2.3)	✓	✓	✓	} 3 additional 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 + 1/2) 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" x 9" Ponar, Loran Core*

Loran Core was ineffective in this sandy sediment

CA

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. John's River

STATION NUMBER: Jox. 6 (A)

DATE: 5-2-82

PREVIOUS NIGHT'S WEATHER:

Partly cloudy, 55°F, Wind from E @ 15-20 knot
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 gusts,
29°C @ 1145 A.M.

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

0-0.5' wave height, no algal plumes, no turbidity plumes,
some insignificant foaming. Current running out (downstream)

OBSERVED PHENOMENA (TO INCLUDE SHIP PASSINGS, STORMWATER

OUTFALLS, ETC.): Small pleasure boats passing more or less
continuously. 4 drainage pipes discharging 100 yds
from Jox. 6 (A). 6 tugboats assist 2 large ships
1 in + 1 out also a large tug pulling a barge

GENERAL COMMENTS:

~~CP~~

BENTHOS DATA FORM
Card 1

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

Station Joy. 6 (A) Sample No. Joy. 6 (A) River Mile _____
 12-13 14-16 17-19

Time Code Eastern Standard Time _____ Depth Units Code 2
 20 21-24 25

Depth of Sample _____ Investigator DA, PB, JC, JR.
 26-31 32-34

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

Preservative Formalin Meter Start _____ Meter Stop _____
 41-42 43-49 50-56

Time of tow min. _____ Sec. _____ Tide _____
 57-59 60-61 70

Time Code 0 = CDT Depth Units 1 = Meters Sample Container _____ Subst. Type _____
 1 = CST 2 = Feet

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

Ben R₁ _____
Ben R₂ _____
Ben R₃ _____

Investigators PB, JC, DA, JR
 Time stop _____
 Time start 1430
 Total _____

Notes: 1 sample is different (the last) from the other two.
Fine sand w/ clay size silt ^W also odorous ^(H₂SO₄) compared to
med. fine sand (clean)

Prepared by Jeff Constant 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: Gap. 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

HEIGHT, 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:

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, PE, JC 5/4/82

Water Depth 28'

WATER QUALITY

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

CHECK WHEN COLLECTED:

REPLICATE

1 2 3

METALS (3.2.3)

✓ ✓ ✓ 6

BOD, F, TSS (3.2.4)

✓ ✓ ✓

NH₄ (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.

METEOROLOGICAL AND GENERAL OBSERVATIONS

PORT/HARBOR NAME: St. John's 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
HEIGHT, 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:

DEH

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *St. John's River*

STATION NUMBER: *Jok. 8 (B)*

DATE: *5-3-82*

COLLECTED BY: (SIGN & DATE)

PR, D. J. R. Jiff Constant
5-3-82

Water Depth 35'

WATER QUALITY *Current very strong w/rope hanging about 45°. Sampling @ 17-18 ft.*

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. UHMS	TURBIDITY NTU
ARRIVE:	1352	35.0	ARRIVE:	22°C	INITIAL:	INITIAL:	5.4	235	ARRIVE:
			NO DATA	(DO)	15.5 (SCT)	7.7			9.5
DEPART:			DEPART:	23°C (SCT)	18 REF. FINAL:	FINAL			DEPART:
	1600			22°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)		—	—	—	no ammonia
PESTICIDES (3.2.7)		✓	✓	✓	
*PHENOLS (3.2.8)		✓	✓	✓	

SEDIMENTOLOGY *When 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/rocks and shell. Only sample collected for flow settling test

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

Took 1 ponar sample upstream from Jok. 8 (B) approx. 1 mile just to see bottom compared w/ Jok. 8 (B) (Med-fine ft. fine 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 H₂S odor.

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: Gox. 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 ~~SE~~ SE @ 5-10 knots
Air Temp. 27°C @ 1204

WATER CONDITIONS (TO INCLUDE GENERAL OBSERVATIONS OF WAVE

HEIGHT, 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 ships within eyesight from
to Gox. 9 (C) up to 10 fishing/shrimping boats within
sight

GENERAL COMMENTS:

Current is limited w/ tide going out

CRH

WATER QUALITY AND SEDIMENT FIELD RECORD SHEET

PORT/HARBOR NAME: *St. Johns River*

STATION NUMBER: *Jan. 9 (c)*

DATE: *5-3-82*

COLLECTED BY: (SIGN & DATE)

P.B. [Signature] R. [Signature]
5-3-82

WATER QUALITY

	TIME	TOTAL DEPTH	SECCHI	TEMP. C°	SALINITY ‰	PH	D.O.	COND. MUHMS	TURBID NTU
ARRIVE:	1200	43.0	ARRIVE:	19.5°C	INITIAL:	INITIAL:	6.9	370	ARRIVE:
DEPART:	1301		DEPART:	20°C	31.5 SCT	7.8			3.2
				(D.O)	31.5 REF.	FINAL:			DEPART:
				(SLT)	FINAL:	8.1			
					30.5 REF.				

CHECK WHEN COLLECTED:

REPLICATE

METALS (3.2.3)

BOD, F, TSS (3.2.4)

NH₄ (3.2.5)

PESTICIDES (3.2.7)

*PHENOLS (3.2.8)

	1	2	3
METALS (3.2.3)	✓	✓	✓ } 3 ac
BOD, F, TSS (3.2.4)	-	-	- } 6 ac
NH ₄ (3.2.5)	-	-	✓
PESTICIDES (3.2.7)	✓	✓	✓ } 9 ac
*PHENOLS (3.2.8)	✓	✓	✓ } 9 ac

SEDIMENTOLOGY *No Sediments or Atterbergs*

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): ~~*Flow Pump*~~ *No Sampling*

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Janette M. Davis
Operations M.P.

E

SEDIMENT RESULTS ID. PNS 1A WOE

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

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E

SEDIMENT RESULTS - Sample ID PNS 1A WOE

Replicate Sample

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

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W

WATER RESULTS ID. PNS 1A WOE

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

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

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W

WATER RESULTS ID. PNS 2B W

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

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S

SEDIMENT RESULTS ID. PNS 4 SF

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

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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
<u>Ag (µg/l)</u>	<u><0.01</u>	<u><0.01</u>	<u><0.01</u>
<u>Cd (µg/l)</u>	<u>0.03</u>	<u>0.03</u>	<u>0.04</u>
<u>Hg (µg/l)</u>	<u><0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Pb (µg/l)</u>	<u>0.23</u>	<u>0.29</u>	<u>0.31</u>
<u>Cu (µg/l)</u>	<u>0.62</u>	<u>0.58</u>	<u>0.71</u>

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S

SEDIMENT RESULTS ID. PNS 5 SF

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

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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
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.03</u>	<u>0.03</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.42</u>	<u>0.47</u>	<u>0.39</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.43</u>	<u>0.56</u>	<u>0.43</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>1.2</u>	<u>1.0</u>	<u>0.92</u>

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S

SEDIMENT RESULTS ID. PNS 6 SF

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

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S

SEDIMENT RESULTS - SAMPLE ID PNS 6 SF

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

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F

WATER RESULTS ID. PNS 6 SF

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

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X

WATER RESULTS ID. PNS 7 X

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

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E

SEDIMENT RESULTS ID. TPA 1A WET

	Replicate		
	I	II	III
<u>Al (ppm dry)</u>	<u>14000</u>	<u>16000</u>	<u>9000</u>
<u>Ag (ppm dry)</u>	<u>0.74</u>	<u>1.2</u>	<u>0.94</u>
<u>Cd (ppm dry)</u>	<u>1.1</u>	<u>2.1</u>	<u>1.9</u>
<u>Cr (ppm dry)</u>	<u>57</u>	<u>89</u>	<u>102</u>
<u>Cu (ppm dry)</u>	<u>120</u>	<u>105</u>	<u>140</u>
<u>Fe (ppm dry)</u>	<u>11000</u>	<u>14000</u>	<u>17000</u>
<u>Pb (ppm dry)</u>	<u>230</u>	<u>160</u>	<u>140</u>
<u>Hg (ppm dry)</u>	<u>0.31</u>	<u>0.39</u>	<u>0.33</u>
<u>Ni (ppm dry)</u>	<u>18</u>	<u>23</u>	<u>41</u>
<u>Zn (ppm dry)</u>	<u>360</u>	<u>504</u>	<u>290</u>
<u>TKN (ppm dry)</u>	<u>730</u>	<u>1100</u>	<u>1700</u>
<u>TOC (ppm dry)</u>	<u>5700</u>	<u>11000</u>	<u>14000</u>
<u>NH₃-N (ppm dry)</u>	<u>350</u>	<u>690</u>	<u>720</u>
<u>PO₄-P (ppm dry)</u>	<u>1200</u>	<u>1100</u>	<u>1100</u>
<u>NO₃-N (ppm dry)</u>	<u>1.6</u>	<u>1.3</u>	<u>1.2</u>

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E

SEDIMENT RESULTS - Sample ID TPA 1A

Replicate Sample

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

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WT

WATER RESULTS ID. TPA 1A WET

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.05</u>	<u>0.03</u>	<u>0.04</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.24</u>	<u>0.20</u>	<u>0.14</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>2.7</u>	<u>4.5</u>	<u>2.9</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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E

ELUTRIATE RESULTS ID. TPA 1A WET

	Replicate		
	I	II	III
<u>Al ($\mu\text{g}/\text{l}$)</u>	<u>1.2</u>	<u>3.2</u>	<u>2.9</u>
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.11</u>	<u>0.09</u>	<u>0.08</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.06</u>	<u>0.06</u>	<u>0.05</u>
<u>Cr ($\mu\text{g}/\text{l}$)</u>	<u>2.1</u>	<u>2.5</u>	<u>2.4</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.20</u>	<u>0.32</u>	<u>0.29</u>
<u>Fe ($\mu\text{g}/\text{l}$)</u>	<u>17</u>	<u>14</u>	<u>13</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.33</u>	<u>0.42</u>	<u>0.38</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.21</u>	<u>0.24</u>	<u>0.20</u>
<u>Ni ($\mu\text{g}/\text{l}$)</u>	<u>5.4</u>	<u>4.6</u>	<u>5.1</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>3.4</u>	<u>4.1</u>	<u>3.9</u>
<u>TKN (mg/l)</u>	<u>15</u>	<u>16</u>	<u>13</u>
<u>TOC (mg/l)</u>	<u>7.0</u>	<u>6.6</u>	<u>7.9</u>
<u>F (mg/l)</u>	<u>1.2</u>	<u>1.1</u>	<u>1.3</u>
<u>NH₃-N (mg/l)</u>	<u>9.2</u>	<u>8.6</u>	<u>7.8</u>
<u>PO₄-N (mg/l)</u>	<u>1.2</u>	<u>0.96</u>	<u>0.92</u>
<u>NO₃-N (mg/l)</u>	<u>0.14</u>	<u>0.19</u>	<u>0.15</u>

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WT

WATER RESULTS ID. TPA 2A WT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.01</u>	<u>0.02</u>	<u>0.02</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>2.0</u>	<u>2.1</u>	<u>2.4</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.1</u>	<u>1.0</u>

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WT

WATER RESULTS ID. TPA 3B WT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.01</u>	<u>0.02</u>	<u>0.01</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.11</u>	<u>0.17</u>	<u>0.10</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>1.5</u>	<u>1.6</u>	<u>1.5</u>
<u>F (mg/l)</u>	<u>1.1</u>	<u>1.0</u>	<u>1.1</u>

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WT

WATER RESULTS ID. TPA 4B WT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u><1.0</u>	<u>1.2</u>	<u><1.0</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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Chief Chemist, L.P.

WT

WATER RESULTS ID. TPA 5B WT

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

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E

SEDIMENT RESULTS ID. TPA 6B WOET

	Replicate		
	I	II	III
<u>Al (ppm dry)</u>	<u>23000</u>	<u>19000</u>	<u>19000</u>
<u>Ag (ppm dry)</u>	<u>0.67</u>	<u>1.0</u>	<u>0.94</u>
<u>Cd (ppm dry)</u>	<u>1.4</u>	<u>1.9</u>	<u>1.4</u>
<u>Cr (ppm dry)</u>	<u>84</u>	<u>97</u>	<u>73</u>
<u>Cu (ppm dry)</u>	<u>8.9</u>	<u>13</u>	<u>19</u>
<u>Fe (ppm dry)</u>	<u>10000</u>	<u>10000</u>	<u>12000</u>
<u>Pb (ppm dry)</u>	<u>42</u>	<u>49</u>	<u>56</u>
<u>Hg (ppm dry)</u>	<u>0.66</u>	<u>0.43</u>	<u>0.59</u>
<u>Ni (ppm dry)</u>	<u>17</u>	<u>16</u>	<u>21</u>
<u>Zn (ppm dry)</u>	<u>120</u>	<u>130</u>	<u>120</u>
<u>TKN (ppm dry)</u>	<u>910</u>	<u>1100</u>	<u>1100</u>
<u>TOC (ppm dry)</u>	<u>7300</u>	<u>7700</u>	<u>8100</u>
<u>NH₃-N (ppm dry)</u>	<u>220</u>	<u>490</u>	<u>230</u>
<u>PO₄-P (ppm dry)</u>	<u>2200</u>	<u>2400</u>	<u>2100</u>
<u>NO₃-N (ppm dry)</u>	<u>1.0</u>	<u>1.2</u>	<u>1.2</u>

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E

SEDIMENT RESULTS - Sample ID TPA 6 A

Replicate Sample

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

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WT

WATER RESULTS ID. TPA 6B WOET

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.03</u>	<u>0.02</u>	<u>0.03</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.18</u>	<u>0.10</u>	<u>0.12</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>1.6</u>	<u>2.0</u>	<u>1.7</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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0

WATER RESULTS - Sample ID TPA 6B WOET

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

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E

ELUTRIATE RESULTS ID. TPA 6B WOET

	Replicate		
	I	II	III
<u>Al ($\mu\text{g}/\text{l}$)</u>	<u>2.2</u>	<u>2.8</u>	<u>3.0</u>
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.08</u>	<u>0.06</u>	<u>0.08</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.06</u>	<u>0.07</u>	<u>0.06</u>
<u>Cr ($\mu\text{g}/\text{l}$)</u>	<u>5.0</u>	<u>3.2</u>	<u>4.2</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.20</u>	<u>0.33</u>	<u>0.30</u>
<u>Fe ($\mu\text{g}/\text{l}$)</u>	<u>14</u>	<u>15</u>	<u>11</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.29</u>	<u>0.37</u>	<u>0.38</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.21</u>	<u>0.23</u>	<u>0.18</u>
<u>Ni ($\mu\text{g}/\text{l}$)</u>	<u>4.6</u>	<u>3.6</u>	<u>3.4</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>4.8</u>	<u>4.2</u>	<u>5.1</u>
<u>TKN (mg/l)</u>	<u>16</u>	<u>12</u>	<u>19</u>
<u>TOC (mg/l)</u>	<u>12</u>	<u>12</u>	<u>11</u>
<u>F (mg/l)</u>	<u>1.2</u>	<u>1.2</u>	<u>1.3</u>
<u>NH₃-N (mg/l)</u>	<u>12</u>	<u>9.4</u>	<u>12</u>
<u>PO₄-N (mg/l)</u>	<u>0.96</u>	<u>1.1</u>	<u>1.3</u>
<u>NO₃-N (mg/l)</u>	<u>0.09</u>	<u>0.13</u>	<u>0.12</u>

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S

SEDIMENT RESULTS ID. TPA 8 SFT

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

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James W. Andrews, Ph.D.
President
Janette M. Davis
Chief Chemist, VP

S SEDIMENT RESULTS - SAMPLE ID TPA 8 SFT

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

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FT

WATER RESULTS ID. TPA 8 SFT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.02</u>	<u>0.01</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.72</u>	<u>0.63</u>	<u>0.60</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.36</u>	<u>0.42</u>	<u>0.40</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>2.4</u>	<u>2.7</u>	<u>2.0</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.31</u>	<u>0.37</u>	<u>0.40</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>0.95</u>

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S

SEDIMENT RESULTS ID. TPA 9 SFT

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

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S

SEDIMENT RESULTS - SAMPLE ID TPA 9 SFT

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

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Janette M. Davis
Chief Chemist / P

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FT

WATER RESULTS ID. TPA 9 SFT

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

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S

SEDIMENT RESULTS ID. TPA 10 SFT

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

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S

SEDIMENT RESULTS - SAMPLE ID TPA 10 SFT

<u>ppm (dry basis)</u>	<u>Replicate Sample</u>		
	<u>I</u>	<u>II</u>	<u>III</u>
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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FT

WATER RESULTS ID. TPA 10 SFT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.03</u>	<u>0.02</u>	<u>0.03</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.76</u>	<u>0.43</u>	<u>0.47</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.21</u>	<u>0.17</u>	<u>0.14</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>2.2</u>	<u>2.0</u>	<u>1.7</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.31</u>	<u>0.52</u>	<u>0.49</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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S

SEDIMENT RESULTS ID. TPA 11 SFT

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

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S SEDIMENT RESULTS - SAMPLE ID TPA 11 SFT

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

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FT

WATER RESULTS ID. TPA 11 SFT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.03</u>	<u>0.01</u>	<u>0.01</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.06</u>	<u>0.05</u>	<u>0.05</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.29</u>	<u>0.27</u>	<u>0.31</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.85</u>	<u>1.2</u>	<u>0.79</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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S

SEDIMENT RESULTS ID. TPA 12 SFT

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

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S

SEDIMENT RESULTS - SAMPLE ID TPA 12 SFT

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

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FT

WATER RESULTS ID. TPA 12 SFT

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.05</u>	<u>0.03</u>	<u>0.04</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.03</u>	<u>0.02</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.29</u>	<u>0.24</u>	<u>0.37</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.77</u>	<u>0.63</u>	<u>0.79</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

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XT

WATER RESULTS ID. TPA 13 XT

	Replicate		
	I	II	III
<u>Al (µg/l)</u>	<u>2.4</u>	<u>1.0</u>	<u>2.6</u>
<u>Ag (µg/l)</u>	<u>0.02</u>	<u>0.03</u>	<u>0.03</u>
<u>Cd (µg/l)</u>	<u>0.03</u>	<u>0.02</u>	<u>0.02</u>
<u>Cr (µg/l)</u>	<u>1.0</u>	<u>0.93</u>	<u>1.1</u>
<u>Cu (µg/l)</u>	<u>0.82</u>	<u>0.78</u>	<u>0.72</u>
<u>Fe (µg/l)</u>	<u>8.0</u>	<u>8.4</u>	<u>7.2</u>
<u>Pb (µg/l)</u>	<u>0.33</u>	<u>0.44</u>	<u>0.30</u>
<u>Hg (µg/l)</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
<u>Ni (µg/l)</u>	<u>0.91</u>	<u>0.94</u>	<u>1.2</u>
<u>Zn (µg/l)</u>	<u>3.9</u>	<u>4.2</u>	<u>3.7</u>
<u>TKN (mg/l)</u>	<u>3.6</u>	<u>2.7</u>	<u>2.9</u>
<u>TOC (mg/l)</u>	<u>4.8</u>	<u>5.4</u>	<u>5.3</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>
<u>NH₃-N (mg/l)</u>	<u>0.12</u>	<u>0.08</u>	<u>0.09</u>
<u>PO₄-P (mg/l)</u>	<u>0.54</u>	<u>0.52</u>	<u>0.71</u>
<u>NO₃-N (mg/l)</u>	<u>0.07</u>	<u>0.06</u>	<u>0.09</u>

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E

SEDIMENT RESULTS ID. MAN 1A WET

	Replicate		
	I	II	III
<u>Al (ppm dry)</u>	<u>18000</u>	<u>17000</u>	<u>11000</u>
<u>Ag (ppm dry)</u>	<u>0.25</u>	<u>0.37</u>	<u>0.92</u>
<u>Cd (ppm dry)</u>	<u>0.76</u>	<u>0.78</u>	<u>0.81</u>
<u>Cr (ppm dry)</u>	<u>24</u>	<u>29</u>	<u>42</u>
<u>Cu (ppm dry)</u>	<u>17</u>	<u>26</u>	<u>21</u>
<u>Fe (ppm dry)</u>	<u>6200</u>	<u>9000</u>	<u>11000</u>
<u>Pb (ppm dry)</u>	<u>14</u>	<u>16</u>	<u>8.4</u>
<u>Hg (ppm dry)</u>	<u>0.21</u>	<u>0.35</u>	<u>0.18</u>
<u>Ni (ppm dry)</u>	<u>15</u>	<u>21</u>	<u>12</u>
<u>Zn (ppm dry)</u>	<u>6.3</u>	<u>18</u>	<u>29</u>
<u>TKN (ppm dry)</u>	<u>1600</u>	<u>2300</u>	<u>3100</u>
<u>TOC (ppm dry)</u>	<u>13000</u>	<u>14000</u>	<u>22000</u>
<u>NH₃-N (ppm dry)</u>	<u>490</u>	<u>380</u>	<u>530</u>
<u>PO₄-P (ppm dry)</u>	<u>1600</u>	<u>1200</u>	<u>1300</u>
<u>NO₃-N (ppm dry)</u>	<u>1.1</u>	<u>0.93</u>	<u>1.6</u>

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E

SEDIMENT RESULTS - Sample ID MAN 1A WET

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

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President
Lorette M. Davis
Director of Operations

WT

WATER RESULTS ID. MAN 1A WET

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

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E

ELUTRIATE RESULTS ID. MAN 1A WET

	Replicate		
	I	II	III
<u>Al ($\mu\text{g}/\text{l}$)</u>	<u>3.6</u>	<u>3.7</u>	<u>4.9</u>
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.11</u>	<u>0.09</u>	<u>0.07</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.05</u>	<u>0.04</u>	<u>0.04</u>
<u>Cr ($\mu\text{g}/\text{l}$)</u>	<u>2.9</u>	<u>2.0</u>	<u>1.7</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>0.76</u>	<u>0.79</u>	<u>0.86</u>
<u>Fe ($\mu\text{g}/\text{l}$)</u>	<u>11</u>	<u>13</u>	<u>9.3</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>0.52</u>	<u>0.42</u>	<u>0.63</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Ni ($\mu\text{g}/\text{l}$)</u>	<u>2.1</u>	<u>1.9</u>	<u>2.3</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>1.9</u>	<u>2.3</u>	<u>2.1</u>
<u>TKN (mg/l)</u>	<u>14</u>	<u>17</u>	<u>12</u>
<u>TOC (mg/l)</u>	<u>8.4</u>	<u>8.4</u>	<u>8.9</u>
<u>F (mg/l)</u>	<u>1.1</u>	<u>1.0</u>	<u>1.1</u>
<u>NH₃-N (mg/l)</u>	<u>8.8</u>	<u>9.7</u>	<u>10</u>
<u>PO₄-N (mg/l)</u>	<u>1.5</u>	<u>3.4</u>	<u>3.1</u>
<u>NO₃-N (mg/l)</u>	<u>0.12</u>	<u>0.14</u>	<u>0.11</u>

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WT

WATER RESULTS ID. MAN 2B WOT

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

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

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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
<u>Ag ($\mu\text{g/l}$)</u>	<u>0.02</u>	<u>0.02</u>	<u>0.03</u>
<u>Cd ($\mu\text{g/l}$)</u>	<u>0.06</u>	<u>0.07</u>	<u>0.05</u>
<u>Hg ($\mu\text{g/l}$)</u>	<u><0.10</u>	<u><0.10</u>	<u><0.10</u>
<u>Pb ($\mu\text{g/l}$)</u>	<u>0.29</u>	<u>0.24</u>	<u>0.29</u>
<u>Cu ($\mu\text{g/l}$)</u>	<u>0.38</u>	<u>0.47</u>	<u>0.45</u>
<u>F (mg/l)</u>	<u>1.0</u>	<u>1.0</u>	<u>1.1</u>

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E

SEDIMENT RESULTS ID. JAX 3A FWJE

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

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E

SEDIMENT RESULTS - Sample ID JAX 3A FWJE

Replicate Sample

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

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F WJ

WATER RESULTS ID. JAX 3A FWJE

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

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E

ELUTRIATE RESULTS ID. JAX 3A FWJE

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

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WJT

WATER RESULTS ID. JAX 4B WJT

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

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WJ

WATER RESULTS ID. JAX 5B WJ

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

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WJ

WATER RESULTS ID. JAX 6A WJ

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.02</u>	<u>0.03</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.35</u>	<u>0.26</u>	<u>0.29</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>35</u>	<u>27</u>	<u>24</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.49</u>	<u>0.39</u>	<u>0.44</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>7.5</u>	<u>6.2</u>	<u>6.9</u>

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Janette M. Davis
Executive Director

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WJ

WATER RESULTS ID. JAX 7 WJ

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

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0

WATER RESULTS - Sample ID JAX 7 W0J

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
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.01</u>	<u><0.01</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
<u>Zn ($\mu\text{g}/\text{l}$)</u>	<u>1.4</u>	<u>1.7</u>	<u>1.5</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.82</u>	<u>0.47</u>	<u>0.52</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>5.3</u>	<u>3.7</u>	<u>3.8</u>

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S

SEDIMENT RESULTS ID. JAX 10 SFJ

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

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S

SEDIMENT RESULTS - SAMPLE ID JAX 10 SFJ

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

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F

WATER RESULTS ID. JAX 10 SFJ

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.03</u>	<u>0.02</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.07</u>	<u>0.11</u>	<u>0.09</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.11</u>	<u>0.10</u>	<u><0.10</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>2.4</u>	<u>1.6</u>	<u>1.7</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>1.8</u>	<u>1.3</u>	<u>1.5</u>

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F

WATER RESULTS ID. JAX 11 FJ

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u><0.01</u>	<u><0.01</u>	<u><0.01</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.06</u>	<u>0.04</u>	<u>0.07</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.20</u>	<u>0.16</u>	<u>0.14</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>1.4</u>	<u>1.7</u>	<u>1.2</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>1.2</u>	<u>1.0</u>	<u>1.0</u>

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S

SEDIMENT RESULTS ID. JAX 12 SFJ

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

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S

SEDIMENT RESULTS - SAMPLE ID JAX 12 SFJ

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

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F

WATER RESULTS ID. JAX 12 SFJ

	Replicate		
	I	II	III
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u><0.01</u>	<u><0.01</u>	<u><0.01</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.15</u>	<u>0.08</u>	<u>0.07</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.13</u>	<u>0.15</u>	<u>0.21</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>1.5</u>	<u>1.2</u>	<u>1.2</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>1.2</u>	<u>1.2</u>	<u>1.0</u>

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S

SEDIMENT RESULTS ID. JAX 13 SFJ

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

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S

SEDIMENT RESULTS - SAMPLE ID JAX 13 SFJ

<u>ppm (dry basis)</u>	<u>Replicate Sample</u>		
	<u>I</u>	<u>II</u>	<u>III</u>
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
<u>Ag ($\mu\text{g}/\text{l}$)</u>	<u><0.01</u>	<u>0.01</u>	<u><0.01</u>
<u>Cd ($\mu\text{g}/\text{l}$)</u>	<u>0.02</u>	<u>0.02</u>	<u>0.02</u>
<u>Hg ($\mu\text{g}/\text{l}$)</u>	<u>0.23</u>	<u>0.14</u>	<u>0.12</u>
<u>Pb ($\mu\text{g}/\text{l}$)</u>	<u>1.2</u>	<u>0.97</u>	<u>0.92</u>
<u>Cu ($\mu\text{g}/\text{l}$)</u>	<u>1.0</u>	<u>0.87</u>	<u>1.1</u>

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P.O. Box 13842 • Savannah, Ga. 31406
912/354-7858



X

WATER RESULTS ID. JAX 14 X

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

James W. Andrews, Ph.D.
President
Janette M. Davis
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E

SEDIMENT RESULTS ID. JAX 15 WEJ

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

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E

SEDIMENT RESULTS - Sample ID JAX 15 WEJ

Replicate Sample

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

Lee W. Andrews, Ph.D.
Director
Lynette M. Davis
Quality Control

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WJ

WATER RESULTS ID. JAX 15 WEJ

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

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E

ELUTRIATE RESULTS ID. JAX 15 WEJ

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

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S

SEDIMENT RESULTS ID. JAX 16S

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

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S

SEDIMENT RESULTS - SAMPLE ID JAX 16S

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

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S

SEDIMENT RESULTS ID. JAX 17S

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

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S

SEDIMENT RESULTS - SAMPLE ID JAX 17S

<u>ppm (dry basis)</u>	<u>Replicate Sample</u>		
	<u>I</u>	<u>II</u>	<u>III</u>
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 H₂S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

- 1.1 Location (Port/Harbor) Pensacola
- 1.2 Station Identification PENT PNS-1A-WE ^{Est} Canal
- 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 thunderstorm preceding 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. ~~25.5~~ ^{25.5}, 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 plumes, 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 dodging, 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

Client/Owner DER

Location
(Port/Harbor) Pennacola

Station PNS 1A-W06
Identification PEN-1

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

Collected by PB, JR, JC

Recorded by JDC

Time (begin) 1230

Water depth BT Thirty-Seven

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 27.21	30 25.4	REF. SCT
pH	7.85	7.92	AM
D.O.	4.3	4.3	DO
Conductivity	350 339	410.4	SCT
Turbidity	3.2	3.4	TURB.

INITIAL
FINAL

DO water temp. @ MID-DEPTH 29°C
 " " " " " 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~~ PMS-2B WCOJ
- 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 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 100% w/ some haze, no sea 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, no 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

Client/Owner DER

Location (Port/Harbor) Pennacola

Station Identification PNS REA 2BW10

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

Collected by PB, JR, J C

Recorded by JDC

Time (begin) 1520

Water depth 38. Thirty Eight

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	AM
D.O.	6.8	7.2	DO
Conductivity	415	370	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 $30^{\circ} 23' 11''$ N and Longitude $87^{\circ} 12' 29''$ 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 SF_{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 temperature)
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

Client/Owner DER

Location
(Port/Harbor) Pensacola

Station
Identification PNS-4SF

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

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1200

Water depth 38 Thirty Eight

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.0	6.0	DISC
Temperature	26.24	26.23	T/KAM 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 29.0	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 H₂S 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
- 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 temperature)
*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% cloud 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

Client/Owner DER

Location
(Port/Harbor) Pensacola

Station
Identification PNS-SSE

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

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1522

Water depth 36 Thirty-Six

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 cephalochordate 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) Pennacola
- 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 temperature)
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 upbay 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

Client/Owner DER

Location
(Port/Harbor) Pensacola

Station
Identification PNS-6SF

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

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1331

Water depth 38 Thirt-Eight

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	6.2	6.1	DISC
Temperature	24.5 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 temperature)
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

Client/Owner DER

Location (Port/Harbor) Pensacola

Station Identification PNS-7X

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

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1148

Water depth 30 Thirty-Six

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	AMM
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 H₂S 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 temperature)
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 Dry dock which is about 400' away. Industrial smell in the atmosphere. A street cleaner was clean the docking area 75' from station
- 1.12 Recorded by: JDC
Citrus pella odor is in the air but dust is not observable. Several different loading terminals are located 1000' ~~sp~~ in and out of port area around TPA-1

IN - SITU DATA RECORD SHEET

Job number 12739-804
 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° 22	TEMP SCT
Salinity	25 23.2	24	R/F SCT
pH	7.7	7.2	A.M.
D.O.	5.6 2.9	3.1	DO
Conductivity	338	342	SCT
Turbidity	2.0	2.2	Turb.

DO Temp. 2

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	22.5	SCT	24.8	SCT
Conductivity	320	SCT	345	SCT
D.O.	4.2	DO	3.5 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) Jump 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 temperature) 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) Jampa Bay
 Date (Month, day, year) 9/13/82
 Recorded by JDC
 Water depth (10) 10m

Client/Owner DER
 Station Identification TPA 2AWT(0)
 Collected by JR, JC, PB
 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	19 22	RCF 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	31°C 36.5	SCT YSI	33°C 32	SCT YSI

16R
 11P DO

Surface }
~~8.2~~ 8.5 }
 Salinity 18.5 }
 Temp. 34.0°C }
 Cond. 340 }
 DGR EQUIP

~~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 $27^{\circ} 48' 08''$ N and Longitude $82^{\circ} 24' 47''$ 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, 109% 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 outfall, ~~obs~~

- 1.11 General Comments

- 1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DER

Location
(Port/Harbor) Jampa Bay

Station
Identification TPA-3B

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

Collected by PB, JR, JC

Recorded by JDC

Time (begin) 1023

Water depth 34 Thirty-Four

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	TEMP SCT
Salinity	22 24.5	23 24	REF SCT
pH	7.95	7.95	AMM
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 $27^{\circ} 51' 21''$ N and Longitude $82^{\circ} 23' 32''$ 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) Jumpa Bay
- 1.2 Station Identification TPA-4B WT(0)cm
- 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)
Air Temp. 29°C, winds from NNE @ 3-5 knots, 5-10% cloud cover, no rain, winds from NNE @ 5 knots air temp approx 29°C
- 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 eagle sighting. Ship anchored at Hardiner dock 175' away (dumping its bays approx 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

Client/Owner DER

Location
(Port/Harbor) Jampa Bay

Station
Identification TPA-4B WT(10)

Date
(Month, day, year) 9/15/87

Collected by PB, JR, JC

Recorded by JDC

Time (begin) _____

Water depth 50 Thide Seven
lead line 38'

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.3	2.0	BISC
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 } DO Surface
 } Sal. 4.5
 } Cond
 EQUIP. }
 10/15/87

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) Jama Bay
- 1.2 Station Identification TPA - 5(B) WT(0) CW
- 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 temperature)

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.)

1/2' - 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.)

Bay paved 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-5AW
 Collected by JE, JR, PR
 Time (begin) 1715

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.0	2.2	DISC
Temperature	30°C 24	31 29.5	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	#11.6	DO
Temperature	31.5	SCT	DO	DO 32°C

↪

DER
 EQUIP. {
 Do. 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 68 WGET cm
- 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 temperature)
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 plumes, 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
- 1.11 General Comments *4 are anchored within 1000' ft. of us*
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 12739-004

Client/Owner DER

Location
(Port/Harbor) Jumpa Bay

Station
Identification 6 B WOET

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

Collected by PB, JC, JC

Recorded by JDC

Time (begin) 1530

Water depth 38 Thirty Eight

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.8	2.8	disc
Temperature	28.5	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

NO DO

DER

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 TPA-8-SFT
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 temperature)

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)

2 clearing
ing program

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.)

was nearly calm, no algal plumes, foaming present w/ floating heavy foam,
surface oils but quite a bit of floating debris.

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

trugs coming out, 3 outfalls in the berthing area,
dredging going on (clam shell) @ E end of berth.

- 1.11 General Comments

Some sea birds not many. 1 ship moored approx. 800' away
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 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

Client/Owner DER

Location (Port/Harbor) Tampa Bay

Station Identification TPA-8 5FT

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

Collected by IC, PB, JR

Recorded by IDC

Time (begin) 1122

Water depth 30.5 Thirty-Six + 1/2

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	170	SCT
Turbidity	7.0	4.6	TURB.

TPA - Port A

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	19	SCT	15	SCT
Conductivity	165 1100	SCT	192 1100	SCT
D.O.	4.9	DER DO	4.0	DO
Temperature	27.0 28.5	DO SCT	29.5 25.8	DO SCT

Test button

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 H₂S 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_{cm}
- 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 forming 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

Client/Owner DER

Location (Port/Harbor) Jamaica Bay

Station Identification TPA-9 SFT
cmd

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

Collected by JR, PB, JC

Recorded by JDC

Time (begin) _____

Water depth ~~44~~ Forty Four

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

red DER
up. for
face DO

30°

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 H₂S 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 HNO₃ 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) Port 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 temperature)

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. ~~no plankton blooms (see readings)~~

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 105

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-DATA

This Note was to remind us that the data record for TPA-11 SFT was attached to this deep records. 4 samples at

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.8	1.5'	DISC
Temperature	28.5 THERM 25.0	29.0 26.2	THERM SCT
Salinity	22 PPM 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*		TuMB.

were re-taken today.

No turbidity reading due to run down battery. Will take a sample bottle 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.	5.10	YSI	5.4	YSI
Temperature	24	SCT YSI	26	SCT YSI

Just cell due to 190

* YSI (DO)

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

indication of stratification probably due to lake problems!

@ 18' DO went from 5.4 to 4.7 distinct stratification
@ very surface DO is 10, appears to be a plankton bloom

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 HNO₃ along with 10 ml of distilled water prior to sample collection on 9/12/82..

During today's 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 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 temperature)
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 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 SF
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 temperature)

See Report #1

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

Air Temp. 26°C, 95% overcast, just had a substantial thundershower but still now very light breeze from WSW, Current negligible

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

Waves 1.5-1.0' 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

Client/Owner DER

Location
(Port/Harbor) TAMPA BAY

Station
Identification TPA 11 SFT

Date
(Month, day, year) 9/10/82

Collected by PB, JR, JC

Recorded by JDC

Time (begin) 1600

Water depth (410) Forty Feet

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.8	3.1	DISCK
Temperature	32.0°C 28°C	31.0 28.5	SCT YSI
Salinity	REF. 22 15.5?	22 22	A=0 REF YSI
pH	7.97 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
Physical Surface & Bottom

Final salinity (-22,
was taken @ surface
w/ A-0 ref.

	Surface	Method	Bottom	Method
Salinity	15?	SCT	16.5?	SCT
Conductivity	268	SCT	295	SCT
D.O.	5.4	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 Measurements Instruments 107

IN - SITU DATA RECORD SHEET

Job number 12739-004
 Location (Port/Harbor) Jampa Bay
 Date (Month, day, year) 9/12/82
 Recorded by JDC
 Water depth () _____

Client/Owner DER
 Station Identification T12-11 SFT_{cm}
 Collected by PB, JR, JC
 Time (begin) _____

Records of T12-11 SFT_{cm}

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	1.6	1.4	
Temperature	28° 29.5	29.0 29.5	YSI YSI THERM
Salinity	24 23	25 22	RFT RFT
pH	8.7	8.1	AMM
D.O.	9.1	8.9	'S'
Conductivity	320	328	'S'
Turbidity	2.9	2.6	TURB

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	23	ECT	27.19	ECT
Conductivity	310	ECT	285	ECT
D.O.	11.2	YSI	5.0	'S'
Temperature	21	YSI	29	YSI

~~21~~ ~~YSI~~ ~~29~~ ~~YSI~~
 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 H₂S 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 temperature)
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 plume (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 berthing 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 17739-004

Client/Owner DER

Location
(Port/Harbor) Jumpa Bay

Station
Identification TPA-125

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

Collected by PB, JR, JC

Recorded by JDC

Time (begin) 1534

Water depth 30 Thirty Six

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°C 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 H₂S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

- 1.1 Location (Port/Harbor) Jumpa Bay
- 1.2 Station Identification TPA-13ATC
- 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 thunderstorms, 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 skinned passed 500' from station, due 4000' away, 2 Tugs pulling pipe passed 750'
- 1.11 General Comments
No dredging
- 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-13XTen

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

Collected by JR, PS, JC

Recorded by JDC

Time (begin) 1226

Water depth (47) Forty-seven

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.1	2.7	DISC
Temperature	28.5 24	29 29.6	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 22.5	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 encountered at this station. The recovered sediment was dark gray-green clayey silt, gelatinous in texture, with a slight H₂S odor.

METEOROLOGICAL AND GENERAL CONDITIONS

Deep Water Ports Maintenance Dredging Study

- 1.1 Location (Port/Harbor) Janga Bay Manatee
1.2 Station Identification MAN 1A WET(O)AMJ
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 temperature)

*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 @ 4-5 knots, Air Temp. 32°C, no significant ^{substant.}

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 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: JDC

Driving piling in NE corner of berth

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DER

Location
(Port/Harbor) Manatee

Station
Identification MAN 1A U

Date
(Month, day, year) 9/11/82

Collected by PB, JC, JR

Recorded by JDC

Time (begin) 1120

Water depth ~~39~~ Thirty Nine

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 REF.
pH	7.9 7.8	7.8	AM #95 AM #67
D.O.	6.4	6.5	D _O cal SET
Conductivity	359	355	SCT
Turbidity	2.8	3.0	TURB

VALUES IN
PARENTHESES
WERE
FINAL 30'

TEMP. WITHHEM. @ MID-DEPTH 28°C

20% bubble
when push
drope to 28
(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 canal
- 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 temperature)
*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 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 organic
debris floating*
- 1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)
*Several small pleasure of 1 point of spoil island
scalping or clamming?*
- 1.11 General Comments
- 1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DER

Location (Port/Harbor) Port of Manatee

Station Identification MAN 2B-WOT_{cm}

Date (Month, day, year) 9/11/82

Collected by PS, TR

Recorded by IDC

Time (begin) _____

Water depth 34.5 Thirty-Four & a half

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	3.6	YSI
Conductivity	372	380	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
225

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 temperature)
*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

Client/Owner DCR

Location (Port/Harbor) Port of Manatee

Station Identification MAN 3 SF

Date (Month, day, year) 9/11/82

Collected by PB, JCR

Recorded by JDC

Time (begin) 1530

Water depth ~~405~~ Forty + a half

THIS VALUE WAS DETERMINED USING THE REFRACTOMETER

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.5'	2.8	DISK
Temperature	27.5 27.0	28.0 29.0	SCT
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 220

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	30.8	SCT	31 24	REF SCT
Conductivity	340	SCT	380	SCT
D.O.	—	—	2	YSI
Temperature	27.5	SCT	25°C 28.2°C	SCT YSI

goes 220 or test call

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 Jan. 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 temperature)
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 wave action, no surface oils & current is slack
- 1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)
200 M. ~~far~~ down river from outfall on transit shed #2 dredging (clamshell) off S. end of transit shed #2. More 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 SDC
 Water depth 30 Thirty-six

Client/Owner TCR
 Station Identification JAX-3A SFWEC
 Collected by JC, JR, 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°	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" poly
 take 1 m. to the
 after original
 Sal 5.0 REF
 pH 7.2 Arr
 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 Sta. 4B WPT (0) 2-1
- 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 temperature)
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 ~~W~~E. end of the phos. terminal
- 1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DER

Location
(Port/Harbor) Jacksonville

Station
Identification 4B WJTC

Date
(Month, day, year) 9/29/82

Collected by JC, JR, BG

Recorded by JDC

Time (begin) 1630

Water depth RD Twenty-six

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	APM
D.O.	7.6	7.5	DO
Conductivity	75	75	SCT
Turbidity	9.4	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	DO → 7.7
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 Box 5B WJ(0)
- 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 temperature)
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 17739-004
 Location (Port/Harbor) Jacksonville
 Date (Month, day, year) 10/1/82
 Recorded by JDC
 Water depth 43 Forty-Three

Client/Owner DER
 Station Identification 904-5B 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	8.0 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 WS (0) com
- 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 temperature)
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, 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

Client/Owner DER

Location
(Port/Harbor) Jacksonville

Station
Identification JAX-6Au

Date
(Month, day, year) 9/27/82

Collected by JC, JR, PB

Recorded by JDC
Water depth 12 Twelve Feet

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 Goat-7A W0J C-1
- 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 temperature)
*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 plumes, 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 DEP
 Station 7A WJ
 Identification JAX-28
 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° 24°	THERM SCT
Salinity	14 13.9	14 11.2	REF SCT
pH	7.6	7.7	AM
D.O.	6.8	6.9	DO
Conductivity	213	189	SCT
Turbidity	7.1	7.6	TURB.

INITIAL DO TEMP & SALINITY 26°
 Final " " " " " " 26°

Physical Surface & Bottom

	Surface	Method	Bottom	Method
Salinity	9.5	SCT	10.3	SCT
Conductivity	152	SCT	252	SCT
D.O.	8.0	DO	5.9	DO
Temperature	25° 26°	SCT DO	25° 21.5°	SCT DO

~(DO) fluctuation in current

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 $30^{\circ} 23' 35''$ N and Longitude $81^{\circ} 28' 35''$ 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 Jay - 8B WJ (0) CW

1.3 Job Number: 12739-004

1.4 Client/Owner: Department of Environmental Regulation

1.5 Date (mo, day, year) 9/26/87

1.6 Observation by: JDC

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

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) 9/25/22
 Recorded by JDC
 Water depth 42 Forty-Two

Client/Owner DER
 Station Identification JAK-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° 24.0	25° 25°	THERM SCT
Salinity	32 27.1	30.5 22.4	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	26° 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. on SCT due to increasing cur

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 SFI
- 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 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. 25°C, 40% cloud cover, no rain, winds NNE @ 5-7 knots, cloudiness increasing late
- 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 plume, no foaming, no surface oils etc.
- 1.10 General Conditions (to include vessel traffic, outfalls, dredging, wildlife, etc.)
No outfalls, ships + barges 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

Client/Owner DER

Location (Port/Harbor) Jacksonville

Station Identification Gal-10 SF

Date (Month, day, year) 9/10/82

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1025

Water depth 41 Forty-One

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.1	2.3	DISC
Temperature	24° 24.5°	24° 24.0°	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 Job 11 SFJ Can
- 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 temperature)
No rain, winds NNE @ 3 knots, partly ~~clear~~, cloudy, 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 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 1.5' 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 300m 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 Fusty-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°	TEMP 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 changed 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 H₂S 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 Jan. 12 SFJ Canal
- 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 temperature)
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 shrimp moved within 50' (he was actively shrimping). Electric plant discharge is 500 m. N of us.
- 1.12 Recorded by: JDC

IN - SITU DATA RECORD SHEET

Job number 12739-004

Client/Owner DGR

Location (Port/Harbor) Jacksonville

Station Identification APL 12 SFJ

Date (Month, day, year) 9/25/82

Collected by JC, JR, PB

Recorded by JC

Time (begin) 1311

Water depth 30 Thirty-Six

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	#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	24 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 $30^{\circ} 23' 20''$ N and Longitude $81^{\circ} 31' 50''$ 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 Job. 13 SFJ can
- 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 98% w/ thin clouds, 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

my ship
barge +
passed
w/
yoked.

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

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 about 11:30 D-94

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 42 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° 27.3°	24.5° 25°	THERM SCT
Salinity	15 16.5	16 16.5	RSE 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 kilos on line for depth. &
 in... approx. 0-95

STATION: JAX 14-X
DATE: October 2, 1982

JAX 14-X was located mid-way along Drummond Creek Cut at Latitude $30^{\circ} 24' 11''$ N and Longitude $81^{\circ} 36' 37''$ 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) ~~#~~ 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 NN
@ 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) 10/2/52
 Recorded by JDC
 Water depth 42 Forty-Five

Client/Owner DCR
 Station Identification Gay 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

INITIAL

Final
 9.0
 90
 6.6
 24°/26°

	Surface	Method	Bottom	Method
Salinity	9.5	SCT	-	-
Conductivity	150	SCT	-	-
D.O.	6.7	DO	-	-
Temperature	24°/25.5°	SCT/DO	-	-

Current is so strong that ~~a~~ bottom and mid-depth IN-SITU were impossible ~~at~~ 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 Job-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 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. 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.
Currents 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 76-77 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

Client/Owner DER

Location (Port/Harbor) Jacksonville

Station Identification Jan. 15 EU

Date (Month, day, year) 10/2/82

Collected by JC, JR, PB

Recorded by JDC

Time (begin) 1236

Water depth 32 Thirty-two

In-situ Physical - Mid Depth Section 3.2.1

	Initial	Final	Method
Secchi	2.0	2.1	PISC
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	5.8	DO → 5.8
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 $30^{\circ} 21' 52''$ N and Longitude $81^{\circ} 37' 19''$ 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 Gax-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 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. 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 night @ the fuel off loading dock at power plant (KENNEDY Power Plant (SEA)).*
- 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

Client/Owner TPCR

Location (Port/Harbor) Jacksonville

Station Identification Gov. 16 S

Date (Month, day, year) 10/2/82

Collected by JC, JR, PB

Recorded by SDC

Time (begin) 1343

Water depth 38 Thirty-Eight

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	29.0 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

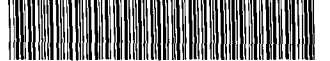
~~Final MID-DEPTH DO is incorrect instrument malfunction~~

DO (final) high, tide is going out current is
 Richman 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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