General Testing Corporation

SECTION 17

ANALYTICAL DATA

4-DAY BASEFLOW STUDY

OCTOBER 17-20, 1988

ANALYTICAL DATA FOR 4-DAY BASEFLOW STUDY
HACKENSACK RIVER STUDY

OCTOBER 17 - 20, 1988 (NO CONCURRENT RIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
1	101788	15	C-2A	M	6.9	24.0	100.8		16.2	<0.05	0.52	0.52	27.5	3.39	3.16	0.23	1.5	68.0	300,000	0.38
4	101788	215	C-2A	M	6.7	26.0	45.6		12.3	<0.05	0.61	0.61	18.6	1.82	1.40	0.42	3.2	61.2	3,000,000	.75
7	101788	410	C-2A	M	6.8	18.0	93.9		11.2	0.22	0.44	0.66	14.4	1.96	1.41	0.55	2.2	178	800,000	5.98
10	101788	610	C-2A	M	6.8	35.0	116.1		13.3	<0.05	0.56	0.56	25.7	4.38	1.63	2.75	2.7	212	4,000,000	0.52
14	101788	800	C-2A	M	7.6	43.0	190.5		21.2	<0.05	0.44	0.44	30.7	3.80	3.57	0.23	1.9	102	2,300,000	0.84
18	101788	1000	C-2A	M	7.6	50.0	181.5		12.5	<0.05	0.17	0.17	22.6	2.24	1.77	0.47	0.5	92.4	1,700,000	1.14
22	101788	1210	C-2A	M	7.20	48.0	163.5		13.9	<0.05	0.47	0.47	24.6	2.70	1.98	0.72	3.0	76.0	3,000,000	0.55
26	101788	1405	C-2A	M	7.21	44.0	171.0		14.0	<0.05	0.45	0.45	26.8	3.42	3.12	0.30	0.5	78.4	8,000,000	0.68
29	101788	1610	C-2A	M	7.06	34.0	171.0		11.5	<0.05	0.46	0.46	30.7	2.66	1.42	1.24	2.0	52	700,000	0.60
33	101788	1808	C-2A	M	7.11	49.0	217.5		12.0	<0.05	0.48	0.48	24.8	2.70	2.19	0.51	1.9	694	5,000,000	0.58
36	101788	2015	C-2A	M	6.99	55.0	137.0		11.6	<0.05	0.42	0.42	18.0	2.88++	3.72	++	2.2	68.3	5,000,000	1.20
40	101788	2200	C-2A	M	6.85	58.0	181.5		12.4	<0.05	0.49	0.49	19.0	2.60	2.45	0.15	1.9	58.9	8,000,000	0.77
43	101888	15	C-2A	M	6.9	25.0	108.0		16.1	<0.05	0.50	0.50	24.6	2.66	2.67	<0.10	3.8	76.7	800,000	0.84
46	101888	205	C-2A	M	6.7	21.0	72.6		13.7	<0.05	0.59	0.59	17.9	2.06	1.80	0.26	3.9	49.6	1,700,000	0.75
49	101888	415	C-2A	M	7.5	29.0	36.0		10.4	0.17	0.58	0.75	6.60	1.64	1.32	0.32	2.2	59.2	3,000,000	0.67
52	101888	615	C-2A	M	6.8	37.0	121.5		16.4	<0.05	0.72	0.72	30.8	2.64	2.55	0.09	1.6	60.0	2,700,000	0.78
56	101888	815	C-2A	M	7.5	46.0	180.0		22.9	<0.05	0.67	0.67	38.4	3.81	*	*	2.2	94.0	8,000,000	1.14
59	101888	1012	C-2A	M	7.0	50.0	162.0		18.8	<0.05	0.68	0.68	40.8	3.97	2.88	1.09	1.7	70.0	8,000,000	0.68
62	101888	1202	C-2A	M	7.09	47.0	217.5		11.3	0.21	0.47	0.68	33.1	3.34	1.96	1.38	2.6	76.2	17,000,000	0.88
65	101888	1410	C-2A	M	7.00	50.0	196.5		14.0	<0.05	0.67	0.67	16.9	2.76	1.60	1.16	2.5	74.0	3,000,000	0.94
68	101888	1610	C-2A	M	7.01	40.0	99.0	220	12.9	<0.05	0.62	0.62	18.1	2.25	0.95	1.30	2.3	54.0	6,430,000	0.67
71	101888	1815	C-2A	M	6.91	48.0	195.0		12.4	<0.05	0.62	0.62	13.3	3.63	2.39	1.24	2.2	78.0	8,000,000	0.67
75	101888	2010	C-2A	M	7.01	63.0	178.5		14.5	<0.05	0.50	0.50	17.5	5.24	2.19	3.05	1.7	116	13,000,000	1.09
79	101888	2210	C-2A	M	6.98	32.0	126.0		13.3	<0.05	0.61	0.61	21.6	3.22	2.00	1.22	2.7	61.0	60,000,000	0.93
2	101788	40	C-3A	M	7.3	60.0	202.5		19.6	<0.05	0.12	0.12	32.4	3.57	3.24	0.33	3.2	149	3,000,000	2.27
5	101788	230	C-3A	M	6.9	44.0	120.0		17.4	<0.05	0.08	0.08	25.7	2.82	1.92	0.90	1.0	15.0	2,200,000	2.24
8	101788	425	C-3A	M	6.8	13.0	45.6		13.1	<0.05	0.07	0.07	16.5	1.67	1.21	0.46	2.0	16.8	2,300,000	1.13
11	101788	625	C-3A	M	7.0	12.0	38.4		11.8	<0.05	0.20	0.20	15.7	1.34	0.98	0.36	1.8	37.8	400,000	1.84
15	101788	815	C-3A	M	7.6	55.0	186.0		26.3	<0.05	0.00	<0.05	38.9	3.74	3.44	0.30	0.7	177	1,700,000	3.31
19	101788	1015	C-3A	M	7.3	65.0	264.0		12.8	<0.05	0.47	0.47	28.5	4.34	3.21	1.13	++	314	700,000	2.59
23	101788	1230	C-3A	M	7.42	68.0	174.0		16.9	<0.05	0.18	0.18	30.9	3.02	2.44	0.58	0.9	109	2,700,000	1.56
27	101788	1425	C-3A	M	7.32	45.0	154.5		17.6	<0.05	0.14	0.14	30.1	3.00	2.64	0.36	2.5	115	3,000,000	2.81
30	101788	1626	C-3A	M	7.38	47.0	201.0		15.3	<0.05	0.16	0.16	28.7	3.66	2.65	1.01	++		8,000,000	0.95
34	101788	1823	C-3A	M	6.96	75.0	288.0		16.5	<0.05	0.13	0.13	22.8	4.30	3.74	0.56	1.0	234	5,000,000	0.70
37	101788	2034	C-3A	M	6.90	65.0	265.5	497	14.9	<0.05	0.11	0.11	19.2	3.51	1.28	2.23	0.4	100	8,000,000	1.50
41	101788	2215	C-3A	M	6.70	94.0	456.0		16.2	<0.05	0.08	0.08	29.3	5.01	3.89	1.12	0.3	1350	8,000,000	1.25
44	101888	30	C-3A	M	6.7	50.0	462.0		18.6	<0.05	0.06	0.06	23.6	4.67	4.22	0.45	2.8	1420	8,000,000	1.95
47	101888	220	C-3A	M	6.8	52.0	1265.0		16.5	<0.05	0.09	0.09	24.0	3.02	1.72	1.30	1.2	167	1,300,000	1.89
50	101888	432	C-3A	M	6.8	24.0	63.3	128	12.9	<0.05	0.06	0.06	13.2	1.67	1.51	0.16	0.9	32.8	3,000,000	1.94
53	101888	635	C-3A	M	6.8	16.0	40.8		13.0	<0.05	0.29	0.29	27.5	1.93	1.58	0.35	1.2	32.0	5,000,000	2.52
57	101888	840	C-3A	M	7.7	69.0	238.5		32.7	<0.05	0.21	0.21	40.0	4.61	3.85	0.76	++	228	8,000,000	3.41
60	101888	1030	C-3A	M	7.5	51.0	196.5		14.8	<0.05	0.23	0.23	25.4	3.24	1.92	1.32	0.5	87.0	8,000,000	2.43
63	101888	1221	C-3A	M	7.18	60.0	414.0		22.9	<0.05	0.36	0.36	32.2	3.70	1.96	1.74	++	95.0	24,000,000	1.33
66	101888	1432	C-3A	M	7.12	73.0	153.0		16.8	<0.05	0.26	0.26	20.8	2.73	1.57	1.16	0.5	91.0	5,000,000	1.13

ANALYTICAL DATA FOR 4-DAY BASEFLOW STUDY
HACKENSACK RIVER STUDY

OCTOBER 17 - 20, 1988 (NO CONCURRENT RIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	DPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
69	101888	1625	C-3A	M	7.08	46.0	144.0		17.8	<0.05	0.33	0.33	16.3	3.62	2.45	1.17	0.2	147	3,000,000	1.33
72	101888	1840	C-3A	M	6.71	62.0	169.5		15.9	<0.05	0.29	0.29	18.5	2.89	1.85	1.04	0.5	90.8	8,000,000	1.65
76	101888	2030	C-3A	M	6.92	68.0	151.5		16.9	<0.05	0.22	0.22	22.0	4.06	2.94	1.12	0.7	127	13,000,000	1.43
80	101888	2230	C-3A	M	6.70	82.0	187.5		15.2	<0.05	0.22	0.22	18.4	3.95	1.95	2.00	0.7	180	13,000,000	1.13
3	101788	120	C-4A	M	7.0	29.0	151.5		18.2	<0.05	0.31	0.31	28.6	3.28	3.39	<.10	4.2	69.2	1,100,000	0.31
6	101788	240	C-4A	M	7.2	18.0	28.2		16.9	0.06	0.34	0.40	25.7	1.97	1.73	0.24	5.7	35.2	800,000	0.34
9	101788	440	C-4A	M	7.5	13.0	54.2	243	19.5	0.07	0.34	0.41	27.5	2.46++	2.82	++	5.2	42.0	1,360,000	0.27
12	101788	640	C-4A	M	7.8	45.0	157.5		28.6	<0.05	0.48	0.48	41.0	4.50	4.02	0.48	3.8	78.3	1,300,000	0.57
16	101788	840	C-4A	M	8.1	70.0	219.0		18.8	<0.05	0.47	0.47	35.8	4.75	4.28	0.47	3.9	152	1,100,000	1.06
20	101788	1033	C-4A	M	7.8	73.0	199.5			<0.05	0.20	0.20	44.3	6.44	0.43	6.01	5.5	147	22,600,000	.92
24	101788	1245	C-4A	M	7.84	56.0	232.5		8.54	<0.05	0.33	0.33	16.2	2.74	1.36	1.38	3.8	62.7	5,000,000	0.68
28	101788	1445	C-4A	M	7.51	62.0	210.0		9.65	<0.05	0.34	0.34	22.7	2.18	1.42	0.76	3.9	138	2,600,000	0.65
31	101788	1643	C-4A	M	7.82	40.0	204.0		11.1	<0.05	0.34	0.34	16.3	2.73	1.62	1.11	3.9	67.5	2,910,000	0.70
35	101788	1845	C-4A	M	7.28	61.0	250.5		13.3	<0.05	0.37	0.37	23.7	4.22	3.17	1.05	4.6	82.6	2,050,000	0.41
38	101788	2100	C-4A	M	7.76	60.0	289.5		12.5	<0.05	0.45	0.45	19.3	6.83	7.28	<.10	4.7	88.0	13,000,000	0.61
42	101788	2240	C-4A	M	7.59	79.0	268.5		15.6	<0.05	0.38	0.38	32.5	4.27	3.21	1.06	4.2	<4.00	5,000,000	0.57
45	101888	45	C-4A	M	7.5	32.0	90.0		22.8	<0.05	0.00	<0.05	28.1	3.34	3.20	0.14	++	58.4	500,000	0.57
48	101888	235	C-4A	M	7.4	19.0	537.0		19.8	0.12	0.42	0.54	29.7	3.82	3.88	<0.10	3.9	90.4	1,520,000	0.42
51	101888	445	C-4A	M	6.6	15.0	57.0		11.1	0.10	0.64	0.74	24.1	1.96	1.80	0.16	3.9	30.4	1,700,000	0.29
54	101888	640	C-4A	M	7.7	95.0	220.5		16.6	<0.05	0.68	0.68	42.0	6.26	4.55	1.71	2.7	218	24,000,000	0.73
58	101888	855	C-4A	M	7.6	59.0	172.5		20.9	<0.05	0.59	0.59	33.0	5.05	3.85	1.20	1.0	90.0	17,000,000	0.43
61	101888	1045	C-4A	M	7.5	51.0	243.0		14.2	<0.05	0.54	0.54	33.9	3.60	0.95	2.65	3.6	73.3	7,000,000	0.44
64	101888	1250	C-4A	M	7.52	54.0	187.5		16.9	<0.05	0.46	0.46	22.0	2.90	1.83	1.07	3.9	93.4	17,700,000	0.62
67	101888	1450	C-4A	M	7.35	47.0	115.5		15.2	<0.05	0.49	0.49	25.6	2.64	1.27	1.37	4.0	74.0	11,000,000	0.55
70	101888	1645	C-4A	M	7.44	70.0	166.5	284	14.6	<0.05	0.58	0.58	26.4	3.15	1.49	1.66	4.4	89.6	3,000,000	0.40
73	101888	1850	C-4A	M	7.09	70.0	238.5		13.5	0.06	0.51	0.57	23.3	3.51	2.55	0.96	4.3	119	11,000,000	0.52
77	101888	2050	C-4A	M	7.30	69.0	222.0		14.7	0.06	0.35	0.41	22.8	4.85	3.18	1.67	3.6	275	8,000,000	0.53
81	101888	2250	C-4A	M	7.89	94.0	190.5		12.2	<0.05	0.52	0.52	30.8	8.64	4.14	4.50	4.4	125	13,000,000	0.44
13	101788	650	C-5A	M	7.4	44.0	220.5		30.0	<0.05	0.34	0.34	38.1	4.29	3.98	0.31	3.9	130	1,700,000	<.03
17	101788	855	C-5A	M	7.7	57.0	199.5		39.3	<0.05	0.34	0.34	54.0	7.08	5.12	1.96	4.5	128	3,000,000	<.03
21	101788	1045	C-5A	M	7.1	59.0	135.0		15.7	<0.05	0.51	0.51	29.7	3.53	3.04	0.49	4.1	140	1,300,000	<.03
25	101788	1302	C-5A	M	7.96	98.0	450.0	432	26.5	<0.05	0.38	0.38	36.4	4.63	3.42	1.21	3.7	154	3,000,000	<.03
32	101788	1700	C-5A	M	7.44	56.0	444.0		20.6	<0.05	0.47	0.47	41.8	4.13	1.87	2.26	4.8	261	13,000,000	<.03
39	101788	2114	C-5A	M	6.90	41.0	210.0		12.2	<0.05	0.30	0.30	19.4	2.23	2.09	0.14	4.2	85.0	2,400,000	<.03
55	101888	655	C-5A	M	7.6	54.0	420.0		33.1	<0.05	0.57	0.57	41.9	5.33	5.90	++	3.8	444	22,000,000	0.08
74	101888	1905	C-5A	M	6.82	44.0	259.5		9.31	0.08	0.51	0.59	14.0	2.72	1.27	1.45	4.2	50.8	800,000	<.03
78	101888	2105	C-5A	M	7.25	73.0	288.0		19.0	0.05	0.34	0.39	23.3	2.15	1.35	0.80	3.7	59.0	3,000,000	<.03
133	101988	119	C-6A	M	7.0	18.0	64.2		14.6	<0.05	0.15	0.15	21.0	1.49	0.72	0.77	6.5	181	210,000	0.18
85	101988	135	C-6A	M	6.6	13.0	24.3		5.82	0.06	0.51	0.57	10.6	1.00	0.54	0.46	3.7	67.0	903,000	0.22
89	101988	255	C-6A	M	6.5	26.0	41.7		4.73	0.17	0.31	0.48	9.77	0.83	0.43	0.40	5.9		5,000,000	0.13
93	101988	450	C-6A	M	6.6	15.0	49.2	103	3.47	0.25	0.32	0.57	13.9	0.93	0.59	0.34	7.1	212	110,000	0.236
97	101988	720	C-6A	M	7.2	34.0	80.4		10.8	<0.05	0.80	0.80	24.6	2.48	1.74	0.74	5.6	100	1,100,000	0.20
101	101988	933	C-6A	M	7.1	90.0	79.8		4.22	<0.05	0.20	0.20	28.7	2.43	1.91	0.52	5.0	94.0	1,300,000	0.57
105	101988	1115	C-6A	M	7.1	30.0	74.1		15.1	<0.05	0.20	0.20	20.1	2.81	1.99	0.82	5.0	105	7,000,000	0.38

ANALYTICAL DATA FOR 4-DAY BASEFLOW STUDY
HACKENSACK RIVER STUDY

OCTOBER 17 - 20, 1988 (NO CONCURRENT RIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
109	101988	1325	C-6A	M	7.5	59.0	135.0	267	14.9	<0.05	0.17	0.17	21.6	3.95	0.64	3.31	4.0	111	8,060,000	0.21
113	101988	1502	C-6A	M	7.1	52.0	144.0		13.0	<0.05	0.17	0.17	18.1	3.04	1.72	1.32	5.3	100	5,000,000	0.35
117	101988	1709	C-6A	M	7.1	58.0	129.0		16.6	<0.05	0.15	0.15	30.8	3.85	2.47	1.38	4.8	82.1	5,000,000	0.75
121	101988	1915	C-6A	M	7.4	54.0	192.0		18.5	<0.05	0.19	0.19	24.0	3.74	3.35	0.39	5.6	176	1,400,000	0.75
125	101988	2110	C-6A	M	7.1	66.0	189.0		19.5	<0.05	0.16	0.16	44.2	2.13	1.70	0.43	4.5	261	14,000,000	0.48
129	101988	2304	C-6A	M	7.1	37.0	63.6		20.0	<0.05	0.19	0.19	18.4	2.22	1.13	1.09	6.5	118	1,100,000	0.59
137	102088	243	C-6A	M	7.3	19.0	26.2		4.77	<0.05	0.00		9.68	0.71	0.34	0.37	6.5	134	300,000	0.27
141	102088	500	C-6A	M	7.4	31.0	35.4		5.28	<0.05	0.36	0.36	15.4	1.48	0.51	0.97	5.30	1444	500,000	0.14
145	102088	725	C-6A	M	7.4	36.0	62.7		12.4	0.13	0.28	0.41	28.3	3.09	1.93	1.16	5.20	103.0	9,000,000	0.17
149	102088	920	C-6A	M	7.3	30.0	87.9		14.8	<0.05	0.30	0.30	26.8	2.66	1.59	1.07	5.30	142		0.34
153	102088	1115	C-6A	M	7.1	45.0	96.8		7.25	<0.05	0.34	0.34	14.8	2.51	1.43	1.08	5.4	66.0	2,400,000	0.34
157	102088	1343	C-6A	M	7.1	36.0	96.3		6.35	0.25	0.03	0.28	18.2	3.55	1.76	1.79	4.5	158	1,100,000	0.61
161	102088	1510	C-6A	M	7.0	38.0	69.3		7.01	<0.05	0.35	0.35	15.4	2.87	1.50	1.37	5.9	81.0	5,000,000	0.51
165	102088	1712	C-6A	M	7.2	74.0	196.5		7.86	<0.05	0.32	0.32	22.6	6.96	6.99	<0.10	4.4	127	5,000,000	0.51
169	102088	1900	C-6A	M	6.92	51.0	115.5		7.45	<0.05	0.27	0.27	16.0	4.18	3.68	0.50	5.2	81.3	3,000,000	0.81
173	102088	2108	C-6A	M	7.10	76.0	147.0		7.15	<0.05	0.25	0.25	15.8	3.00	0.79	2.21	5.0	69.3	3,000,000	0.65
177	102088	2304	C-6A	M	7.20	39.0	78.6		6.00	0.09	0.20	0.29	10.8	2.66	0.48	2.18	5.5	59.5	3,000,000	0.61
132	101988	100	C-7A	M	7.4	17.0	39.6		13.6	<0.05	0.21	0.21	22.0	1.43	0.55	0.88	4.7	29.0	1,300,000	1.34
84	101988	115	C-7A	M	6.7	15.0	43.5		6.89	<0.05	0.39	0.39	14.2	1.77	1.28	0.49	5.1	31.6	2,700,000	1.44
88	101988	240	C-7A	M	6.5	10.0	25.2		6.07	0.10	0.24	0.34	8.97	1.14	0.66	0.48	5.7	22.2	3,000,000	1.10
92	101988	435	C-7A	M	6.6	10.0	18.68		4.76	0.28	0.13	0.41	10.4	0.86	0.49	0.37	6.5	15.0	14,200,000	1.75
96	101988	645	C-7A	M	7.4	50.0	102.0		14.4	<0.05	0.36	0.36	33.2	3.42	2.53	0.89	4.0	97.0	50,000,000	3.96
100	101988	910	C-7A	M	7.2	29.0	111.0		22.9	<0.05	0.18	0.18	26.0	2.64	1.93	0.71	3.7	72.7	3,000,000	3.28
104	101988	1100	C-7A	M	7.2	30.0	108.0		13.1	<0.05	0.18	0.18	16.9	1.77	1.07	0.70	3.1	57.0	9,000,000	1.70
108	101988	1302	C-7A	M	7.2	30.0	83.4		13.2	<0.05	0.36	0.36	16.4	1.77	0.98	0.79	4.5	84.6	3,000,000	1.67
112	101988	1445	C-7A	M	7.0	34.0	77.0		10.5	<0.05	0.10	0.10	14.3	2.25	0.87	1.38	5.3	64.8	2,600,000	1.71
116	101988	1647	C-7A	M	7.2	68.0	109.5		16.7	<0.05	0.20	0.20	22.2	2.40	0.81	1.59	4.6	80.6	5,000,000	1.56
120	101988	1830	C-7A	M	7.0	66.0	154.5		18.7	<0.05	0.20	0.20	32.4	2.17	1.09	1.08	4.5	93.0	13,000,000	1.18
124	101988	2043	C-7A	M	7.1	79.0	132.0		16.8	<0.05	0.15	0.15	29.8	3.12	1.13	1.99	4.2	127	50,000,000	2.45
128	101988	2238	C-7A	M	7.1	51.0	99.0		19.6	<0.05	0.17	0.17	27.2	2.20	1.18	1.02	3.7	101	5,000,000	2.40
136	102088	233	C-7A	M	7.2	11.0	15.45		7.10	<0.05	0.90	0.90	9.64	0.63	0.49	0.14	5.7	21.6	230,000	0.94
140	102088	445	C-7A	M	7.3	12.0	26.1		5.21	<0.05	0.24	0.24	9.84	1.19	0.54	0.65	6.20	29.2	1,300,000	0.94
144	102088	654	C-7A	M	6.9	61.0	97.59		15.4	<0.05	0.26	0.26	33.2	3.36	2.47	0.89	4.35	198	3,000,000	3.42
148	102088	903	C-7A	M	7.2	48.0	116.0		14.6	<0.05	0.24	0.24	29.0	2.82	1.89	0.93	4.95	95.0	7,000,000	2.51
152	102088	1050	C-7A	M	7.2	37.0	95.4		8.58	<0.05	0.23	0.23	13.8	1.41	0.80	0.61	3.8	64.0	11,000,000	1.55
156	102088	1322	C-7A	M	7.4	46.0	100.5		7.25	0.16	0.07	0.23	17.2	1.91	0.70	1.21	2.1	66.6	5,000,000	2.51
160	102088	1449	C-7A	M	7.2	40.0	93.0		6.81	<0.05	0.18	0.18	13.1	1.81	0.69	1.12	5.6	107	2,200,000	3.80
164	102088	1649	C-7A	M	7.5	60.0	148.5		7.39	<0.05	0.18	0.18	17.1	2.46	0.92	1.54	5.0	95.3	5,000,000	4.45
168	102088	1834	C-7A	M	6.90	86.0	202.5		7.46	<0.05	0.22	0.22	17.4	2.41	0.09	2.32	4.2	98.0	1,100,000	4.37
172	102088	2040	C-7A	M	7.10	54.0	115.0		6.91	<0.05	0.18	0.18	14.3	2.19	0.11	2.08	4.3	85.5	5,000,000	4.53
176	102088	2248	C-7A	M	7.20	51.0	124.5		10.3	<0.05	0.24	0.24	15.7	2.41	0.23	2.18	4.5	60.0	5,000,000	3.67
130	101988	15	C-9A	M	7.2	65.0	57.6		14.0	<0.05	0.15	0.15	28.6	1.85	1.04	0.81	3.0	121	800,000	0.91
82	101988	35	C-9A	M	6.8	21.0	68.4		12.1	<0.05	0.72	0.72	21.3	1.52	0.97	0.55	7.1	66.0	2,600,000	0.79
86	101988	210	C-9A	M	6.6	22.0	35.1		10.8	0.10	0.77	0.87	15.5	1.04	0.54	0.50	4.3	54.5	11,000,000	0.75

ANALYTICAL DATA FOR 4-DAY BASEFLOW STUDY
HACKENSACK RIVER STUDY

OCTOBER 17 - 20, 1988 (NO CONCURRENT RIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	DPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
90	101988	405	C-9A	M	6.5	11.0	18.9		6.31	0.28	0.62	0.90	7.31	0.66	0.33	0.33	4.6	20.0	1,400,000	0.66
94	101988	610	C-9A	M	7.2	16.0	39.0		16.1	<0.05	0.40	0.40	25.1	2.96	2.13	0.83	4.5	22.0	50,000,000	1.22
98	101988	823	C-9A	M	8.4	48.0	117.0		11.6	<0.05	0.61	0.61	35.1	4.96	3.85	1.11	4.6	115	3,000,000	1.86
102	101988	1031	C-9A	M	8.0	75.0	108.0		20.6	<0.05	0.21	0.21	28.5	3.61	2.53	1.08	5.5	223	3,000,000	0.24
106	101988	1235	C-9A	M	7.5	44.0	93.0		15.0	<0.05	0.12	0.12	18.8	1.84	0.99	0.85	3.5	115	17,000,000	2.10
110	101988	1403	C-9A	M	6.9	64.0	172.5		10.7	<0.05	0.13	0.13	28.4	1.82	0.66	1.16	2.8	98.6	22,000,000	1.35
114	101988	1610	C-9A	M	7.1	42.0	90.0		16.9	<0.05	0.16	0.16	29.4	1.61	0.78	0.83	4.3	79.5	8,000,000	1.69
118	101988	1755	C-9A	M	6.7	70.0	180.0		15.9	<0.05	0.20	0.20	31.8	2.10	1.03	1.07	0.0	165	8,000,000	2.36
122	101988	2002	C-9A	M	6.8	50.0	219.0		14.3	<0.05	0.12	0.12	25.2	2.92	0.85	2.07	3.9	97.0	13,000,000	2.94
126	101988	2205	C-9A	M	7.1	50.0	153.0		18.1	<0.05	0.34	0.34	25.4	2.36	0.84	1.52	3.1	75.0	2,200,000	2.10
134	102088	205	C-9A	M	7.2	17.0	35.6		8.94	0.40	++	<0.05	13.6	0.88	0.34	0.54	3.8	39.5	500,000	0.44
138	102088	412	C-9A	M	7.3	11.0	14.6	32.4	7.54	<0.05	1.36	1.36	7.64	0.79	0.44	0.35	5.20	30.1	1,600,000	0.82
142	102088	605	C-9A	M	6.9	18.0	22.05		6.23	<0.05	0.71	0.71	11.7	1.14	0.52	0.62	4.70	24.5	240,000	0.51
146	102088	814	C-9A	M	7.4	55.0	84.0		15.6	0.12	0.31	0.43	30.4	3.76	0.54	3.22	2.25	73.0	9,000,000	2.29
150	102088	1005	C-9A	M	7.1	39.0	294.0		10.2	<0.05	0.53	0.53	19.7	1.86	1.20	0.66	3.10	78.5	5,920,000	1.71
154	102088	1245	C-9A	M	7.4	51.0	120.0		8.86	<0.05	0.51	0.51	13.2	1.76	0.74	1.02	4.5	100	2,400,000	2.32
158	102088	1405	C-9A	M	7.0	54.0	81.0	173	7.07	<0.05	0.52	0.52	13.6	1.95	0.68	1.27	7.1	72.0	5,000,000	2.10
162	102088	1608	C-9A	M	6.7	93.0	99.0	187	7.59	<0.05	0.56	0.56	18.5	2.19	0.88	1.31	1.5	75.0	5,000,000	2.32
166	102088	1802	C-9A	M	6.8	49.0	138.0		7.19	<0.05	0.46	0.46	17.2	2.40	0.50	1.90	2.8	80.7	5,000,000	2.97
170	102088	2002	C-9A	M	7.00	86.0	189.0		7.12	<0.05	0.43	0.43	15.0	2.66	0.12	2.54	3.5	77.7	3,000,000	1.96
174	102088	2208	C-9A	M	7.10	65.0	99.0		8.30	0.05	0.39	0.44	14.9	2.21	0.23	1.98	3.0	58.0	8,000,000	1.32
131	101988	36	C-12A	M	7.3	26.0	86.4		22.8	<0.05	0.16	0.16	39.8	2.26	1.28	0.98	6.0	87.0	1,300,000	0.49
83	101988	50	C-12A	M	6.7	55.0	65.1		8.30	0.05	0.41	0.46	21.1	2.28	1.48	0.80	5.4	64.0	17,000,000	0.16
87	101988	220	C-12A	M	6.5	22.0	40.2		10.8	0.10	0.43	0.53	25.9	2.13	1.44	0.69	5.3	43.5	7,000,000	0.41
91	101988	420	C-12A	M	6.6	10.0	27.0		9.62	0.20	0.35	0.55	13.9	2.00	1.41	0.59	6.0	34.5	90,000,000	0.43
95	101988	625	C-12A	M	6.7	31.0	61.2		9.71	<0.05	0.74	0.74	30.2	2.26	1.30	0.96	3.9	87.0	90,000,000	0.85
99	101988	845	C-12A	M	7.5	49.0	126.0		16.0	<0.05	0.51	0.51	37.8	3.82	2.75	1.07	2.0	96.0	90,000,000	1.18
103	101988	1049	C-12A	M	7.2	43.0	114.0		15.0	<0.05	0.17	0.17	19.6	2.02	1.48	0.54	2.8	124	8,000,000	0.95
107	101988	1250	C-12A	M	10.5	65.0	160.5		22.3	0.12	0.10	0.22	28.3	12.9	8.42	4.48	6.0	149	20,000	0.67
111	101988	1426	C-12A	M	9.2	89.0	234.0		24.4	0.16	0.03	0.19	36.7	6.15	5.72	0.43	5.2	164	17,000,000	0.49
115	101988	1628	C-12A	M	8.6	88.0	214.5		48.3	0.05	0.14	0.19	61.0	7.53	5.51	2.02	3.0	205	50,000,000	0.88
119	101988	1810	C-12A	M	8.5	56.0	135.0		11.3	0.13	0.06	0.19	20.6	4.82	3.04	1.78	7.0	122	2,020,000	1.41
123	101988	2023	C-12A	M	7.4	44.0	130.5		11.8	<0.05	0.12	0.12	23.6	2.54	0.80	1.74	7.0	83.5	7,000,000	1.42
127	101988	2220	C-12A	M	7.2	24.0	64.2	118	13.5	<0.05	0.16	0.16	16.2	1.92	0.59	1.33	7.0	53.5	3,000,000	0.95
135	102088	220	C-12A	M	7.2	16.0	135.0		14.7	<0.05	<0.05	<0.05	25.6	1.97	0.85	1.12	5.0	40.0	800,000	0.17
139	102088	425	C-12A	M	7.4	11.0	25.8		9.43	<0.05	0.44	0.44	13.7	1.35	0.89	0.46	5.65	21.8	1,600,000	0.28
143	102088	625	C-12A	M	7.3	24.0	39.6		15.2	0.05	0.27	0.32	25.4	2.96++	4.15	++	5.85	49.30	5,000,000	0.51
147	102088	840	C-12A	M	8.9	70.0	150.0		18.0	0.15	0.07	0.22	33.8	12.4	8.05	4.35	5.30	228	9,000,000	1.33
151	102088	1030	C-12A	M	8.0	52.0	144.0		13.4	<0.05	0.31	0.31	37.1	4.00	2.99	1.01	4.40	98.1	7,000,000	0.37
155	102088	1302	C-12A	M	7.9	55.0	297.0		12.9	<0.05	0.26	0.26	27.1	3.27	3.10	0.17	5.6	106	8,000,000	0.82
159	102088	1428	C-12A	M	8.6	49.0	76.0		7.41	0.07	0.25	0.32	22.6	7.55	4.38	3.17	3.2	71.0	<20,000	0.85
163	102088	1632	C-12A	M	11.1	47.0	64.0		9.19	0.07	0.27	0.34	22.1	25.3	6.32	18.98	6.1	85.0	<20,000	
167	102088	1817	C-12A	M	7.48	39.0	78.9		5.46	0.17	0.06	0.23	14.5	3.64	1.12	2.52	8.0	114	3,000,000	2.02
171	102088	2022	C-12A	M	7.50	39.0	81.0		7.47	<0.05	<0.05	<0.05	7.83	1.34	0.13	1.21	7.5	64.4	2,400,000	1.70

ANALYTICAL DATA FOR 4-DAY BASEFLOW STUDY
HACKENSACK RIVER STUDY

OCTOBER 17 - 20, 1988 (NO CONCURRENT RIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
175	102088	2226	C-12A	M	7.40	35.0	71.7		3.06	0.08	0.12	0.20	6.70	1.24	0.06	1.18	7.9	72.0	3,870,000	1.53

NOTES: C-2A = ANDERSON STREET - UPSTREAM OF REGULATOR AT MAIN ST.
C-3A = COURT STREET - UPSTREAM OF REGULATOR
C-4A = PAULSON STREET - UPSTREAM OF REGULATOR AT GROVE STREET
C-5A = ELM STREET - UPSTREAM OF REGULATOR
C-6A = NORTH BERGEN - UPSTREAM OF REGULATOR AT TONNELLY & 51st STREET
C-7A = MANHATTEN AVENUE - UPSTREAM OF REGULATOR
C-9A = SIP AVENUE - UPSTREAM OF REGULATOR
C-12A = ST PAUL - UPSTREAM OF REGULATOR
++ = MATRIX INTERFERENCE
= NO TITRATABLE IODINE PRODUCED UPON ACIDIFICATION DUE TO INTERFERING LARGE AMOUNTS OF SOLID ORGANIC MATERIAL

General Testing Corporation

SECTION 18

ANALYTICAL DATA

LAND USE STATIONS

(COURT AND ST. PAUL ONLY)

OCTOBER 21, 1988 STORM

ANALYTICAL DATA FOR LAND USE STATIONS
HACKENSACK RIVER STUDY

OCTOBER 21, 1988 STORM EVENT (NO CONCURRENTRIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
	102188	1400	C-3																	0
	102188	1445	C-3																	0
	102188	1525	C-3																	0
	102188	1730	C-3																	0
	102188	2240	C-3																	20.5
	102188	2255	C-3																	15.66
	102188	2310	C-3																	11.69
	102188	2325	C-3																	14.1
	102188	2340	C-3																	10.86
	102188	2355	C-3																	9.59
178	102188	1410	C-3A	M	6.6	86.0	640.0		17.2	0.06	0.26	0.32	46.9	5.04	1.64	3.40	++	1427	<200,000	0.78
179	102188	1425	C-3A	M	6.6	91.0	>840.0		15.9	<0.05	0.29	0.29	81.4	2.90	0.89	2.01	++	1920	<200,000	1.57
180	102188	1440	C-3A	M	7.2	82.0	159.0		13.0	<0.05	0.25	0.25	19.8	2.84	0.43	2.41	++	222	200,000	2.88
181	102188	1455	C-3A	M	6.9	145.0	238.7		17.2	<0.05	<0.05	<0.05	23.6	3.42	0.69	2.73	++	300	<200,000	1.24
182	102188	1505	C-3A	M	6.8	80.0	215.7		12.7	<0.05	0.43	0.43	19.7	3.11	0.93	2.18	++	217	200,000	3.06
183	102188	1520	C-3A	M	6.6	81.0	216.0	409	12.4	<0.05	0.68	0.68	58.7	1.96	0.71	1.25	++	283	200,000	1.14
184	102188	1535	C-3A	M	6.7	65.0	195.0		10.1	0.21	0.72	0.93	18.1	1.00	0.55	0.45	1.00	265	<200,000	2.54
189	102188	1630	C-3A	M	6.6	40.0	89.10		7.72	0.42	0.36	0.78	11.2	1.45	0.59	0.86	2.20	120	900,000	1.70
188	102188	1650	C-3A	M	6.6	47.0	116.0		7.78	0.26	0.60	0.86	23.2	1.45	0.37	1.08	2.10	133	400,000	1.50
190	102188	1700	C-3A	M	6.6	29.0	72.5		5.88	0.31	0.55	0.86	9.31	1.23	0.40	0.83	2.80	69.0	200,000	1.17
191	102188	1730	C-3A	M	6.6	55.0	76.8		5.43	0.22	0.63	0.85	8.30	1.14	0.43	0.71	3.20	62.0	700,000	1.49
200	102188	1750	C-3A	M	6.9	41.0	73.2	98.2	6.24	0.41	0.37	0.78	12.0	1.09	0.43	0.66	3.50	65.0	70,000	0.93
201	102188	1805	C-3A	M	6.8	45.0	73.5		9.69	0.14 ++		0.06	12.9	2.20	0.52	1.68	3.70	57.0	1,300,000	1.69
202	102188	1820	C-3A	M	6.9	29.0	80.4		6.89	0.07	0.62	0.69	13.8	1.49	0.52	0.97	3.20	57.0	2,400,000	0.52
203	102188	1835	C-3A	M	6.9	28.0	108.0		7.08	<0.05	0.63	0.63	14.6	1.74	0.33	1.41	3.20	48.5	24,000,000	0.59
204	102188	1905	C-3A	M	6.9	28.0	81.3		6.96	0.07	0.48	0.55	10.7	1.65	0.62	1.03	2.80	48.2	22,000,000	1.43
	102188	1920	C-3A																	0.81
205	102188	1935	C-3A	M	6.8	30.0	82.5		8.72	<0.05	0.53	0.53	10.6	1.84	0.31	1.53	3.40	49.0	5,000,000	1.22
	102188	1950	C-3A																	1.08
206	102188	2005	C-3A	M	6.9	33.0	90.3		6.26	0.17 ++		<0.05	10.6	1.66	0.76	0.90	3.30	54.5	5,000,000	1.36
	102188	2020	C-3A																	
207	102188	2035	C-3A	M	6.8	38.0	75.0		5.51	<0.05	0.50	0.50	14.0	1.94	0.72	1.22	3.0	44.0	938,000	3.22
	102188	2050	C-3A																	4.33
208	102188	2105	C-3A	M	6.9	36.0	104.5		6.55	<0.05	0.50	0.50	12.6	2.40	0.81	1.59	3.0	54.7	3,000,000	4.39
	102188	2120	C-3A																	4.55
209	102188	2135	C-3A	M	7.1	36.0	68.0		3.79	0.08	0.48	0.56	6.90	1.40	0.53	0.87	4.2	66.0	13,000,000	6.66
	102188	2150	C-3A																	6.50
223	102188	2205	C-3A	M	6.2	40.0	54.8		1.80	<0.05	0.53	0.53	8.52	1.22	0.18	1.04	6.6	129	300,000	6.66
224	102188	2220	C-3A	M	6.3	33.0	58.8		1.79	<0.05	0.50	0.50	6.48	0.46	0.18	0.28	7.4	128	700,000	14.44
	102188	2235	C-3A																	17.77
225	102188	2250	C-3A	M	6.2	30.0	44.6	85.7	0.97	<0.05	0.38	0.38	3.15	0.23	<0.05	0.23	6.8	127	<20,000	17.70
	102188	2305	C-3A																	10.16
226	102188	2320	C-3A	M	6.0	24.2	42.8		0.74	<0.05	0.36	0.36	2.93	0.43	0.06	0.37	9.3	72.7	<20,000	18.45
227	102188	2335	C-3A	M	6.1	26.0	37.8		0.95	<0.05	0.37	0.37	3.47	0.53	0.07	0.46	9.3	71.3	2,400,000	14.30

ANALYTICAL DATA FOR LAND USE STATIONS
HACKENSACK RIVER STUDY

OCTOBER 21, 1988 STORM EVENT (NO CONCURRENTRIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	B.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
228	102188	2350	C-3A	M	6.1	23.0	37.1		0.88	<0.05	0.24	0.24	3.96	0.28	0.09	0.19	7.8	54.7	300,000	13.65
	102188	1600	C-12																	2.19
	102188	1630	C-12																	1.4
	102188	1700	C-12																	2.29
	102188	1730	C-12																	3.27
	102188	1800	C-12																	3.27
	102188	1830	C-12																	1.82
	102188	1900	C-12																	1.8
	102188	1930	C-12																	1.8
	102188	2000	C-12																	5.34
	102188	2030	C-12																	7.06
	102188	2100	C-12																	10.96
	102188	2115	C-12																	9.46
	102188	2130	C-12																	10.58
	102188	2145	C-12																	2.68
	102188	2200	C-12																	5.49
	102188	2215	C-12																	13.95
	102188	2230	C-12																	9.49
	102188	2245	C-12																	6.33
	102188	2300	C-12																	5.46
	102188	2330	C-12																	4.82
185	102188	1430	C-12A	M	7.6	62.0	75.6		2.25	0.11	1.11	1.22	5.00	0.75	0.28	0.47	7.80	203	<200,000	4.07
186	102188	1445	C-12A	M	8.1	65.0	77.7		3.40	0.11	++	<0.05	5.18	0.27	0.18	0.09	8.60	80.0	<200,000	5.31
187	102188	1500	C-12A	M	8.0	64.0	51.3		2.85	0.11	++	<0.05	4.02	0.42	0.18	0.24	8.20	124	<200,000	4.13
192	102188	1515	C-12A	M	6.9	38.0	40.8	92.3	1.58	0.1	0.72	0.82	7.19	0.57	0.27	0.30	9.20	76.0	200,000	4.26
193	102188	1530	C-12A	M	9.0	36.0	36.25		1.23	0.11	0.63	0.74	6.89	0.55	0.40	0.15	9.15	99.2	<200,000	3.68
194	102188	1600	C-12A	M	8.2	35.0	43.2		1.40	0.09	0.60	0.69	4.45	0.55	0.23	0.32	9.00	58.0	40,000	1.90
195	102188	1630	C-12A	M	7.8	39.0	54.0		1.78	0.09	0.60	0.69	6.32	0.42	0.13	0.29	9.00	60.0	300,000	1.87
196	102188	1700	C-12A	M	7.4	35.0	48.0		1.48	0.14	0.55	0.69	5.32	0.49	0.08	0.41	8.60	44.0	500,000	1.42
197	102188	1730	C-12A	M	7.2	41.0	37.5		1.24	0.1	0.58	0.68	4.16	0.40	0.06	0.34	9.15	83.0	500,000	4.39
198	102188	1800	C-12A	M	6.9	30.0	26.7		0.93	0.09	0.56	0.65	1.50	0.35	0.05	0.30	9.40	67.0	700,000	3.48
199	102188	1830	C-12A	M	6.7	28.0	30.6		1.40	0.08	0.53	0.61	6.53	0.47	0.10	0.37	9.20	46.0	<20,000	1.99
210	102188	1900	C-12A	M	6.6	25.0	36.2	83.5	1.21	0.08	0.51	0.59	4.68	0.55	<0.05	0.55	8.9	34.5	800,000	2.85
211	102188	1930	C-12A	M	6.7	28.0	47.8		2.94	0.09	0.08	0.17	3.86	0.46	0.06	0.40	9.2	42.0	1,300,000	3.88
	102188	1950	C-12A																	2.88
212	102188	2000	C-12A	M	6.6	26.0	46.5		1.06	0.08	0.46	0.54	2.45	0.67	<0.05	0.67	9.3	39.0	400,000	2.76
213	102188	2030	C-12A	M	6.5	31.0	26.2		0.92	0.07	0.36	0.43	1.75	0.41	0.05	0.36	9.8	68.5	8,000,000	6.01
214	102188	2045	C-12A	M	6.4	34.0	45.6		0.85	0.06	0.35	0.41	2.58	0.42	<0.05	0.42	9.7	64.0	400,000	4.97
215	102188	2100	C-12A	M	6.3	28.0	15.3		0.74	0.05	0.36	0.41	2.27	0.49	0.08	0.41	10.0	64.0	2,300,000	7.09
216	102188	2115	C-12A	M	6.3	24.0	23.6		0.71	0.19	0.22	0.41	2.85	0.43	0.05	0.38	10.1	49.0	877,000	6.67
217	102188	2130	C-12A	M	6.2	24.0	22.6		0.71	0.06	0.33	0.39	2.24	2.44	<0.05	2.44	10.4	50.5	800,000	9.08
218	102188	2145	C-12A	M	6.2	25.0	20.0		0.55	<0.05	0.37	0.37	2.21	4.14	<0.05	4.14	10.4	66.5	1,700,000	13.73
219	102188	2200	C-12A	M	6.2	25.0	16.4		0.60	0.06	0.27	0.33	2.51	0.60	0.07	0.53	9.0	92.4	1,100,000	13.91
220	102188	2215	C-12A	M	6.2	34.5	23.95	48.3	0.58	0.09	0.24	0.33	2.96	0.44	0.11	0.33	10.0	120	1,100,000	11.88

ANALYTICAL DATA FOR LAND USE STATIONS
HACKENSACK RIVER STUDY

OCTOBER 21, 1988 STORM EVENT (NO CONCURRENTRIVER SAMPLING)

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	CBOD20 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	D.O. mg/l	TSS mg/l	(MPN) FEC. COLI org/100ml	FLOW RATE (cfs)
221	102188	2230	C-12A	M	6.2	35.0	22.8		0.60	<0.05	0.33	0.33	2.24	0.40	0.05	0.35	10.3	98.0	500,000	10.29
222	102188	2245	C-12A	M	6.1	29.5	17.9		0.56	<0.05	0.39	0.39	1.87	<0.10	<0.05	<0.10	10.0	40.0	700,000	6.55
229	102188	2300	C-12A	M	6.5	25.0	26.2		0.66	<0.05	0.42	0.42	3.39	1.32	<0.05	1.32	9.4	34.5	<20,000	4.97
	102188	2315	C-12A																	4.70
230	102188	2330	C-12A	M	6.6	190	21.20	49.4	0.83	<0.05	0.48	0.48	3.61	0.29	0.08	0.21	9.8	28.2	<20,000	4.27

NOTES: C-3 = COURT STREET OVERFLOW
C-12 = ST PAUL OVERFLOW
C-12A = ST PAUL - UPSTREAM OF REGULATOR
++ = MATRIX INTERFERENCE
** = NO TITRATABLE IODINE PRODUCED UPON ACIDIFICATION DUE TO INTERFERING LARGE AMOUNTS OF SOLID ORGANIC MATERIAL

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
82	110888	1855	S-13	M	6.9	9.7	2.98	4.65	0.41	0.70	1.11	7.01	0.12	0.24	-0.12	15.98	24.0	4.0	5.69	30.8
87	110888	2050	S-13	M	7.0	6.5	3.20	5.12	0.38	0.47	0.85	5.93	0.21	0.22	<0.10	29.25	23.0	4.3	5.94	19.0
91	110888	2220	S-13	M	7.0	5.9	2.90	5.15	0.39	0.48	0.87	7.01	0.29	0.23	0.06	10.46	21.0	4.1	6.13	21.5
96	110988	35	S-13	M	7.0	6.2	2.88	5.04	0.36	0.52	0.88	6.36	0.25	0.25	<0.10		10.5	3.1	6.21	20.3
100	110988	245	S-13	M	7.1	6.7	2.80	4.67	0.34	0.48	0.82	6.42	0.25	0.23	0.02		14.5	2.4	5.60	22.8
105	110988	500	S-13	M	7.0	12.0	3.35	4.89	0.34	0.44	0.78	6.36	0.20	0.22	<0.10	25.15	14.0	2.3	5.55	37.2

NOTES:
S1 = Sawmill Creel Channel at Mouth
S2 = Sawmill Creek Ditch
S3 = Sawmill Channel at Turnpike Bridge
S4 = HMDC 1C Landfill Ditch near Sawmill Creek Channel
S9 = Mill Creek above Mouth
S10 = Seacaucus STP
S11 = Mill Creek at Huber Street
S12 = Overpeck Creek & PSE&G Intake
S13 = PSE&G Discharge Channel

M1 = Sawmill Creek Embayment, Mudflat Station
M2 = Sawmill Creek Marsh near S3, Inlet to Marsh Impoundment
M3 = Sawmill Creek Marsh near S3, Outlet from Marash Impoundment

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
92	110888	2250	S-11	M	7.0	8.4	4.35	7.03	0.10	0.55	0.65	8.14	1.16	1.07	0.09	7.41	11.5	1.9	4.86	27.7
97	110988	110	S-11	M	7.0	24.0	10.0	11.84	0.07	0.43	0.50	12.93				4.66	10.5	2.9	3.22	28.8
101	110988	310	S-11	M	7.1	23.5	11.5	11.61	0.07	0.43	0.50	12.06	1.85	1.82	0.03	10.01	11.0	1.7	3.01	57.4
106	110988	515	S-11	M	7.0	12.0	6.00	7.37	0.10	0.47	0.57	9.65	1.31	1.32	<0.10	7.04	10.0	4.7	4.70	19.2
1	110788	710	S-12	M	6.9	6.4	3.18	5.32	0.39	0.54	0.93	7.04	1.80	1.20	0.60	15.78	13.0	5.7	6.99	21.0
6	110788	900	S-12	M	6.7	6.2	3.22	5.44	0.38	0.55	0.93	7.40	0.38	0.26	0.12	27.11	13.0	3.2	7.40	17.6
11	110788	1040	S-12	M	6.7	6.5	4.25	5.06	0.26	0.90	1.16	6.90	0.72	0.58	0.14	16.64	13.5	2.6	6.99	14.4
16	110788	1207	S-12	M	7.1	6.4	3.52	4.58	0.33	0.47	0.80	6.75	0.32	0.18	0.14	41.41	13.0	3.7	5.94	16.2
20	110788	1510	S-12	M	6.8	7.5	3.22	3.09	0.22	0.49	0.71	3.94	0.24	0.11	0.13		11.5	5.7	4.73	24.8
25	110788	1715	S-12	M	7.0	14.0	3.80	3.52	0.24	0.49	0.73	5.29	0.35	0.05	0.30	92.06	11.0	4.1	4.60	24.5
30	110788	1920	S-12	M	7.1	7.2	3.00	5.37	0.33	0.57	0.90	6.40	0.38	0.22	0.16	26.25	15.0	3.5	6.57	17.0
34	110788	2105	S-12	M	7.0	7.1	3.05	4.62	0.29	0.52	0.81	7.33	0.32	0.17	0.15	30.49	13.0	4.6	5.53	20.5
38	110788	2230	S-12	M	7.1	6.2	2.80	4.64	0.28	0.54	0.82	7.09	0.32	0.18	0.14	46.61	14.0	12.6	5.68	20.5
42	110888	45	S-12	M	6.7	40.0	3.35	4.22	0.26	0.53	0.79	13.58	0.40	0.12	0.28	10.09	9.0	1.7	5.59	39.2
44	110888	248	S-12	M	7.0	14.0	3.18	4.30	0.26	0.55	0.81	7.49	0.34	0.14	0.20	34.82	11.0	2.4	5.39	22.8
48	110888	455	S-12	M	7.2	52.0	15.6	4.67	0.25	0.36	0.61	17.11	2.78	0.12	2.66	66.22	10.5		5.00	380
52	110888	620	S-12	M	7.0	13.0	4.20	5.43	0.33	0.51	0.84	8.21	0.50	0.19	0.31	20.93	13.0	2.7	6.43	45.0
60	110888	830	S-12	M	6.8	6.6	3.63	5.43	0.31	0.55	0.86	8.92	0.31	0.17	0.14	14.92	14.0	2.80	6.50	18.6
64	110888	1034	S-12	M	7.1	5.85	3.59	5.54	0.33	0.54	0.87	7.00	0.28	0.28	0.00	13.49	14.0	2.95	6.64	30.2
68	110888	1305	S-12	M	6.8	5.65	3.89	5.22	0.26	0.63	0.89	5.37	0.19	0.18	0.01	20.92	12.0		5.44	14.6
73	110888	1505	S-12	M	6.9	15.0	3.52	4.18	0.26	0.47	0.73	4.75	<0.10	0.08	<0.10	35.34	12.0	2.7	5.24	40.5
77	110888	1700	S-12	M	7.2	15.0	5.12	4.38	0.30	0.46	0.76	4.86	0.17	0.19	<0.10	43.84	12.0	4.5	5.05	43.6
81	110888	1845	S-12	M	7.1	9.5	2.95	4.62	0.34	0.50	0.84	7.38	0.18	0.27	<0.10	21.49	13.0	2.0	6.25	29.2
86	110888	2035	S-12	M	7.1	7.0	3.42	4.56	0.28	0.49	0.77	5.00	0.14	0.15	<0.10	31.54	14.0	5.1	5.28	16.0
90	110888	2210	S-12	M	7.1	5.7	3.63	4.50	0.27	0.52	0.79	6.59	0.19	0.16	0.03	37.99	13.0	4.8	5.41	20.0
95	110988	20	S-12	M	7.0	11.0	3.65	5.14	0.31	0.53	0.84	6.76	0.29	0.24	0.05		11.0	4.4	6.00	21.0
99	110988	230	S-12	M	7.1	9.1	3.52	4.30	0.26	0.48	0.74	5.39	0.13	0.13	<0.10		11.0	1.9	5.21	25.2
104	110988	445	S-12	M	7.0	29.0	11.3	4.30	0.28	0.40	0.68	6.76	<0.10	0.10	<0.10	22.30	10.5	2.8	4.78	779.0
2	110788	730	S-13	M	7.1	6.4	2.95	5.06	0.42	0.51	0.93	6.55	0.38	0.26	0.12	20.53	19.0	3.7	6.57	19.8
7	110788	915	S-13	M	6.8	6.5	3.00	5.14	0.43	0.52	0.95	7.04	0.38	0.21	0.17	31.15	19.0	3.9	6.73	16.3
12	110788	1055	S-13	M	6.9	5.5	2.30	4.98	0.43	0.54	0.97	4.59	0.39	0.28	0.11		19.0	3.2	7.08	17.8
17	110788	1223	S-13	M	7.1	6.4	2.20	4.88	0.42	0.53	0.95	6.15	0.38	0.20	0.18	29.57	20.0	2.9	6.88	18.0
21	110788	1540	S-13	M	6.7	8.0	2.80	3.99	0.30	0.53	0.83	5.21	0.37	0.11	0.26	25.37	16.5	2.8	5.19	42.8
26	110788	1730	S-13	M	7.0	12.0	3.40	5.12	0.39	0.49	0.88	6.31	0.42	0.18	0.24	41.79	22.0	3.4	5.85	33.0
31	110788	1940	S-13	M	7.1	8.0	2.30	5.08	0.38	0.53	0.91	6.25	0.39	0.30	0.09	12.26	22.0	3.2	6.25	26.0
35	110788	2120	S-13	M	7.1	6.0	2.40	5.01	0.38	0.53	0.91	8.13	0.36	0.20	0.16	30.01	21.0	4.0	6.27	15.5
39	110788	2250	S-13	M	7.0	5.9	2.60	2.19	0.37	0.56	0.93	10.95	0.36	0.22	0.14	27.69	19.0	4.0	6.38	16.5
43	110888	100	S-13	M	6.9	10.0	3.35	4.45	0.36	0.55	0.91	9.27	0.37	0.21	0.16	31.45	12.0	3.2	6.28	24.4
45	110888	300	S-13	M	7.1	14.0	2.88	3.88	0.26	0.52	0.78	5.81	0.35	0.13	0.22	37.52	10.0	3.5	4.89	39.0
49	110888	515	S-13	M	6.8	16.0	3.70	4.99	0.34	0.45	0.79	6.33	0.52	0.22	0.30	30.04	12.0	3.1	5.33	43.5
53	110888	635	S-13	M	7.1	10.0	3.20	4.90	0.35	0.48	0.83	7.20	0.42	0.20	0.22	11.13	17.0	3.2	5.44	22.0
61	110888	850	S-13	M	6.8	6.6	4.11	5.10	0.38	0.50	0.88	8.04	0.21	0.23	-0.02		21.0	3.00	6.00	31.2
65	110888	1051	S-13	M	7.1	6.05	2.87	5.10	0.39	0.52	0.91	6.02	0.22	0.25	-0.03	23.92	21.5	3.45	6.29	14.2
69	110888	1330	S-13	M	6.9	6.8	3.40	4.85	0.38	0.48	0.86	5.50	0.33	0.24	0.09	22.65	19.0	3.9	6.17	20.0
74	110888	1526	S-13	M	7.0	16.0	3.52	4.28	0.32	0.44	0.76	5.75	<0.10	0.16	<0.10	32.76	20.0	3.4	5.39	53.0
78	110888	1715	S-13	M	7.1	17.0	3.38	4.51	0.40	0.44	0.84	5.70	0.20	0.22	<0.10	7.08	25.0	3.9	5.60	58.0

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	DPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
46	110888	320	S-9	M	7.0	15.0	5.85	6.94	0.05	0.41	0.46	9.13	1.80	1.24	0.56	8.24	9.0	1.5	4.33	13.6
50	110888	530	S-9	M	6.8	12.0	3.38	4.83	0.33	0.67	1.00	9.33	0.45	0.26	0.19	25.76	11.0	2.8	7.68	30.0
54	110888	655	S-9	M	7.0	11.0	3.05	4.31	0.33	0.73	1.06	9.46	0.41	0.27	0.14	28.72	10.0	3.0	8.68	29.2
63	110888	918	S-9	M	7.0	6.45	2.9	4.36	0.33	0.72	1.05	6.75	0.40	0.23	0.17	19.27	11.0	3.70	8.30	18.4
67	110888	1120	S-9	M	7.0	7.45	4.00	5.72	0.33	0.64	0.97	6.04	0.45	0.35	0.10	12.86	11.5	2.95	7.38	27.6
71	110888	1345	S-9	M	6.9	13.0	4.50	6.52	0.13	0.67	0.80	5.70	0.99	0.99	<0.10	8.12	11.0	1.7	5.39	23.6
76	110888	1540	S-9	M	7.0	13.0	3.90	6.21	0.16	0.62	0.78	5.91	0.66	0.76	<0.10	9.99	11.0	1.2	5.62	28.4
80	110888	1735	S-9	M	7.1	12.0	2.85	4.79	0.34	0.64	0.98	7.50	0.20	0.32	-0.12	15.41	15.0	3.2	7.41	33.6
84	110888	1910	S-9	M	7.0	8.0	2.20	4.35	0.34	0.70	1.04	6.08	0.27	0.25	0.02	23.67	12.5	4.2	8.24	27.2
89	110888	2110	S-9	M	7.0		2.80	4.31	0.33	0.70	1.03	6.34	0.23	0.20	0.03	21.77	13.0	5.15	8.41	25.8
93	110888	2240	S-9	M	7.0	7.5	3.00	4.70	0.33	0.64	0.97	6.99	0.28	0.26	0.02	9.15	13.0	4.5	7.70	21.3
98	110988	130	S-9	M	7.0	21.0	4.12	6.23	0.26	0.55	0.81	7.50	0.37	0.57	-0.20	17.97	10.0	2.8	6.40	53.2
102	110988	330	S-9	M	7.0	14.0	4.22	7.01	0.15	0.52	0.67	8.98	1.04	0.97	0.07	<2.18	11.5	3.05	5.34	28.8
107	110988	535	S-9	M	7.1	15.0	3.32	4.96	0.34	0.57	0.91	7.58	0.22	0.26	<0.10	13.05	11.0	0.6	7.12	38.8
5	110788	755	S-10	M	7.4	22	7.58	10.96	0.19	0.73	0.92	22.83	2.21	2.00	0.21		17.0		0.86	28.4
10	110788	946	S-10	M	7.3	24.0	9.53	10.92	0.17	0.76	0.93	21.22	1.98	2.00	-0.02		17.0		0.87	38.8
15	110788	1135	S-10	M	7.4	25.0	12.8	21.72	0.19	0.54	0.73	22.51	2.38	2.00	0.38	<2.09	15.5	6.2	0.92	38.8
24	110788	1500	S-10	M	7.4	33.0	21.5	21.79	0.11	0.45	0.56	27.56	1.91	1.90	0.01			4.2	0.77	42.0
29	110788	1830	S-10	M	7.2	27.0	26.7	23.64	0.10	0.35	0.45	27.24	2.01	2.00	0.01		15.0		0.74	36.0
57	110788	2300	S-10	M	7.2	24.0	14.6	25.53	0.08	0.62	0.70	36.79	2.58	1.87	0.71				0.72	29.6
56	110888	300	S-10	M	6.9	23.0	5.48	25.97	0.09	0.65	0.74	36.82	3.40						0.69	24.4
58	110888	700	S-10	M	6.9	21.0	8.40	23.39	0.10	0.73	0.83	40.39	1.81	1.81	0.00				0.72	34.8
59	110888	1100	S-10	M	6.9	17.0	8.25	24.35	0.11	0.85	0.96	37.27	3.05						0.70	25.6
72	110888	1400	S-10	M	7.2	26.0	13.8	23.08	0.10	0.68	0.78	26.04	1.12	1.93	-0.81		17.0		0.72	36.4
85	110888	1940	S-10	M	7.0	24.0	13.35	14.13	0.23	0.52	0.75	17.42	1.36	1.36	<0.10		17.0	5.65	3.59	33.0
94	110888	2300	S-10	M	7.0	35.0	22.5	23.42	0.16	0.46	0.62	27.01	1.84				17.0	7.0	1.22	49.0
103	110988	345	S-10	M	7.2	270	12.2		0.12	0.60	0.72	27.50	2.32		2.32		11.5	6.1	0.71	31.2
3	110788	750	S-11	M	7.0	4.0	2.90	5.00	0.20	0.96	1.16	6.52	0.87	0.74	0.13	12.94	13.0	2.2	6.68	9.2
8	110788	940	S-11	M	6.9	4.5	3.18	4.74	0.16	0.98	1.14	6.47	1.01	0.84	0.17	7.39	12.5	1.6	6.08	13.3
13	110788	1116	S-11	M	7.0	5.8	3.72	4.82	0.35	0.50	0.85	5.82	0.37	0.19	0.18	34.14	13.0	2.4	6.55	14.7
18	110788	1235	S-11	M	7.1	14.0	2.60	3.05	0.10	0.66	0.76	4.36	1.18	0.88	0.30		12.0	1.5	5.20	44.4
22	110788	1620	S-11	M	6.9	16.0	5.55	7.82	0.10	0.71	0.81	10.31	1.57	0.97	0.60	8.01	12.0	2.6	4.75	23.6
27	110788	1745	S-11	M	7.1	12.0	4.95	5.61	0.11	0.89	1.00	7.05	1.23	0.76	0.47	12.77	11.0	3.2	5.75	29.2
32	110788	2010	S-11	M	7.0	9.3	3.22	5.63	0.11	0.91	1.02	8.48	1.16	0.88	0.28		10.0	2.3	5.83	27.0
36	110788	2155	S-11	M	7.0	8.2	3.40	5.64	0.09	0.70	0.79	8.63	1.35	0.99	0.36	8.90	11.0	1.9	5.07	20.5
40	110788	2330	S-11	M	7.0	6.2	3.20	4.04	0.05	0.45	0.50	5.87	1.33	0.99	0.34	5.13	10.5	1.3	4.57	12.8
47	110888	345	S-11	M	7.1	14.0	3.90	5.86	0.18	0.68	0.86	9.57	1.08	0.65	0.43	20.14	9.0	0.9	5.90	31.5
51	110888	545	S-11	M	6.9	14.0	3.78	6.51	0.10	0.64	0.74	15.12	1.49	0.95	0.54	12.69	9.0	1.5	5.44	30.5
55	110888	710	S-11	M	7.1	11.0	3.52	5.47	0.29	0.61	0.90	9.80	0.58	0.29	0.29	21.79	11.0	2.2	6.90	22.0
62	110888	936	S-11	M	6.9	6.55	5.32	5.97	0.20	0.66	0.86	8.61	0.77	0.68	0.09	10.46	11.0	1.65	6.08	21.2
66	110888	1140	S-11	M	7.0	6.95	4.72	5.85	0.09	0.63	0.72	4.77	1.34	1.10	0.24		13.0	0.80	5.10	17.4
70	110888	1358	S-11	M	6.9	6.5	2.50	4.20	<0.05	0.53	0.53	4.37	1.23	1.10	0.13	5.67	11.0	2.9	4.43	13.6
75	110888	1549	S-11	M	7.0	16.0	7.50	8.34	0.05	0.42	0.47	7.95	1.47	1.27	0.20	<1.53	10.0	2.2	3.66	34.4
79	110888	1750	S-11	M	6.8	15.0	4.50	6.92	0.12	0.58	0.70	8.93	1.28	1.29	<0.10	14.04	12.0	1.2	5.03	33.2
83	110888	1930	S-11	M	7.0	9.8	3.98	6.61	0.22	0.60	0.82	8.72	0.58	0.58	<0.10	16.89	13.0	3.3	6.06	29.2
88	110888	2125	S-11	M	6.9	9.2	5.28	6.70	0.14	0.56	0.70	7.96	0.90	0.90	<0.10	12.71	12.0	2.6	5.00	27.3

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	DPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
199	111188	305	S-3	M	7.46	17.0	3.40	4.49	0.43	0.96	1.39	5.80	0.38	0.20	0.18	16.58	10.0	5.0	11.9	69.6
202	111188	505	S-3	M	7.40	12.0	3.90	4.12	0.42	0.98	1.40	4.99	0.26	0.21	0.05	17.44	10.0	4.0	11.9	70.7
205	111188	715	S-3	M	7.44	15.0	2.00	2.50	0.44	1.08	1.52	3.84	0.37	0.20	0.17	3.93	10.0	5.5	12.3	46.8
226	111188	915	S-3	M	7.45	11.0	1.3	2.10	0.42	1.08	1.50	3.37	0.29	0.23	0.06	4.68	12.0	3.6	13.5	37.3
229	111188	1105	S-3	M	7.47	11.0	1.6	2.26	0.41	1.11	1.52	3.47	0.29	0.22	0.07	13.77	12.5	3.2	13.4	288
241	111188	1305	S-3	M	7.49	8.5	2.10	2.85	0.42	1.06	1.48	3.43	0.26	0.20	0.06	12.89	12.0	6.8	13.2	29.8
250	111188	1610	S-3	M	7.50	31.0	4.02	4.20	0.41	1.03	1.44	5.33	0.38	0.18	0.20	10.65	11.0	9.3	11.9	84.0
253	111188	1715	S-3	M	7.30	17.5	3.33	4.25	0.41	1.05	1.46	5.30	0.33	0.20	0.13	24.55	11.0	6.5	12.0	46.4
267	111188	1943	S-3	M	7.4	22.0	2.00	2.88	0.42	1.04	1.46	2.79	0.39	0.58	-0.19	10.67	10.0	4.0	11.9	60.8
264	111188	2130	S-3	M	7.7	14.5	1.5	2.60	0.43	1.09	1.52	2.62	0.39	0.26	0.13	8.23	10.0	4.3	12.6	32.2
270	111188	2330	S-3	M	7.3	13.0	1.7	2.51	0.43	1.12	1.55	3.01	0.27	0.27	<0.10	16.18	10.0	3.8	12.9	29.2
280	111288	145	S-3	M	7.34	14.5	1.6	2.71	0.43	1.05	1.48	3.26		0.25		7.03	10.0	4.5	12.0	32.0
112	111088	400	S-4	M	7.40	18.0	4.48	4.32	0.35	0.91	1.26	5.34	<0.10	0.18	-0.18	8.96		6.6	11.6	26.0
114	111088	600	S-4	M	7.20	2.0	2.88	3.11	0.39	1.06	1.45	4.25	0.15	0.24	<0.10	14.24	10.5	6.1	11.7	65.2
132	111088	800	S-4	M	7.15	17.0	2.78	2.29	0.37	1.06	1.43	4.19	0.22	0.22	<0.10	20.92	10.0	6.9	12.9	24.8
121	111088	1130	S-4	M	7.23	9.9	2.00	2.08	0.38	1.13	1.51	3.02	0.27	0.21	0.06	16.99	11.0	6.1	13.4	49.0
162	111088	1340	S-4	M	7.58	13.0	2.70	2.86	0.38	1.13	1.51	4.71	0.19	0.20	<0.10	24.94	12.5	5.9	11.8	53.0
163	111088	1520	S-4	M	7.61	20.0	3.10	7.29	0.38	1.12	1.50	9.80	0.30	0.19	0.11	26.56	12.0	6.0	12.0	73.5
169	111088	1730	S-4	M	7.72	17.0	3.15	4.53	0.40	1.03	1.43	5.47	0.20	0.19	0.01	22.22	13.0	7.8	11.6	40.4
170	111088	1920	S-4	M	7.51	19.0	2.50	3.02	0.44	1.04	1.48	4.74	0.20	0.25	<0.10	19.19	12.0	9.4	11.9	60.0
174	111088	2120	S-4	M	7.36	16.0	1.8	2.54	0.44	1.06	1.50	3.14	0.29	0.24	0.05	12.41	13.5	7.8	12.8	32.4
176	111088	2310	S-4	M	7.43	11.0	2.3	3.26	0.40	1.15	1.55	4.18	0.13	0.19	<0.10	35.38	12.0	7.3	12.1	36.4
193	111188	130	S-4	M	7.35	32.0	2.60	5.91	0.42	0.92	1.34	6.97	0.46	0.21	0.25	21.24	9.0	8.5	12.1	94.0
194	111188	300	S-4	M	7.49	27.0	3.62	4.59	0.37	0.81	1.18	5.50	0.26	0.19	0.07	19.14	10.0	7.5	11.4	99.5
209	111188	530	S-4	M	7.34	27.0	3.80	4.41	0.40	0.87	1.27	5.26	0.45	0.20	0.25	21.46	9.0	5.7	11.3	73.2
213	111188	730	S-4	M	7.40	20.0	1.8	3.03	0.44	1.03	1.47	3.56	0.36	0.25	0.11	15.93	9.0	5.7	11.5	54.0
212	111188	730	S-4	M	7.46	22.0	2.00	3.49	0.45	1.04	1.49	4.24	0.41	0.24	0.17	19.41	9.0	5.8	11.7	66.0
231	111188	945	S-4	M	7.39	7.9	1.7	2.69	0.41	1.07	1.48	3.23	0.30	0.22	0.08	16.40	12.0	6.0	13.0	41.6
236	111188	1130	S-4	M	7.37	8.1	1.8	2.46	0.40	1.13	1.53	2.99	0.32	0.21	0.11	16.82	13.0	6.4	14.2	42.5
237	111188	1245	S-4	M	7.41	8.0	1.9	2.61	0.41	1.10	1.51	3.20	0.32	0.21	0.11	21.73	12.0	7.1	13.5	42.8
243	111188	1520	S-4	M	7.60	35.5	4.44	3.99	0.40	0.92	1.32	6.54	0.65	0.20	0.45	46.53	11.0	5.8	11.6	99.2
245	111188	1720	S-4	M	7.80	21.75	5.42	5.21	0.36	0.95	1.31	5.08	0.47	0.19	0.28	18.62	10.5	6.5	11.9	76.5
247	111188	1920	S-4	M	7.7	16.0	4.10	5.19	0.39	0.98	1.37	5.98	0.31	0.19	0.12	28.34		4.4	11.6	32.8
272	111188	2100	S-4	M	7.52	18.0	1.8	2.63	0.44	1.06	1.50	3.84	0.25	0.27	<0.10	26.13	10.0	8.2	11.8	44.4
274	111188	2320	S-4	M	7.3	70.0	5.50	2.84	0.48	0.89	1.37	3.47	0.12	0.21	<0.10	29.28	9.0	4.8	12.2	812.0
277	111288	120	S-4	M	7.5	12.0										4.92	7.0	6.2	11.8	33.2
279	111288	320	S-4	M	7.53	28.0	6.30	4.73	0.35	0.75	1.10	4.70		0.23		22.47	5.0	7.6	10.8	82.8
4	110788	745	S-9	M	7.2	4.5	2.40	4.12	0.40	0.75	1.15	5.06	0.37	0.26	0.11	16.75	13.0	4.2	9.51	21.0
9	110788	930	S-9	M	6.9	5.7	2.70	4.53	0.38	0.69	1.07	7.04	0.39	0.27	0.12	20.25	12.0	3.6	8.36	20.0
14	110788	1123	S-9	M	7.1	4.7	3.00	4.20	0.13	0.84	0.97	5.07	1.10	0.84	0.26	8.48	13.0	1.2	5.70	12.0
19	110788	1305	S-9	M	7.0	11.0	3.05	5.06	0.17	0.96	1.13	6.01	1.01	0.74	0.27	9.05	12.0		6.05	30.0
23	110788	1558	S-9	M	7.0	13.0	3.25	5.16	0.32	0.66	0.98	5.76	0.29	0.22	0.07	27.68	13.0	3.2	7.03	39.6
28	110788	1740	S-9	M	7.1	11.0	3.00	4.36	0.34	0.69	1.03	5.66	0.40	0.21	0.19	24.15	12.5	3.2	8.12	33.2
33	110788	2000	S-9	M	7.1	8.0	2.10	4.57	0.32	0.73	1.05	6.57	0.38	0.20	0.18	29.37	12.0	4.1	8.35	21.0
37	110788	2140	S-9	M	7.1	7.0	2.40	4.86	0.32	0.69	1.01	8.06	0.38	0.23	0.15	25.27	12.0	4.9	7.74	23.5
41	110788	2310	S-9	M	7.0	8.3	7.80	5.93	0.19	0.78	0.97	21.68	0.91	0.59	0.32	19.80	11.0	3.2	6.21	37.2

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
224	111188	925	S-1	M	7.41	15.0	0.7	0.75	0.26	0.94	1.20	2.02	0.23	0.19	0.04	5.99	10.5	3.2	16.1	64.3
227	111188	1120	S-1	M	7.45	12.0	1.0	1.42	0.32	1.04	1.36	2.63	0.24	0.20	0.04	5.45	12.0	5.8	15.7	32.8
239	111188	1325	S-1	M	7.39	14.0	1.35	2.36	0.41	1.11	1.52	3.15	0.31	0.21	0.10	20.45	12.0	7.1	13.3	65.6
248	111188	1630	S-1	M	7.3	20.0	1.5	3.71	0.43	1.04	1.47	4.68	0.32	0.20	0.12	29.98	10.0	7.8	12.1	44.8
251	111188	1730	S-1	M	7.40	10.75	1.7	3.18	0.40	1.05	1.45	3.91	0.32	0.26	0.06	18.28	10.5	5.75	11.4	20.2
265	111188	2004	S-1	M	7.8	17.50	2.00	1.86	0.42	1.11	1.53	2.34	0.27	0.27	0.00	7.42	10.5	3.6	13.0	38.0
262	111188	2145	S-1	M	7.8	12.0	1.2	1.97	0.38	1.09	1.47	4.73	0.34	0.23	0.11	7.01	10.0	3.7	14.2	30.0
268	111188	2345	S-1	M	6.9	10.0	0.8	2.23	0.40	1.10	1.50	4.06	0.25	0.25	<0.10	10.90	10.0	3.8	13.7	23.2
281	111288	210	S-1	M	7.21	16.0	1.25	2.36	0.42	1.08	1.50	2.58		0.26		5.13	9.5	4.25	12.2	48.8
117	111088	355	S-2	M	7.30	11.0	2.40	3.04	0.40	1.07	1.47	4.10	<0.10	0.22	-0.22	18.72	8.5	3.7	12.2	36.8
118	111088	410	S-2	M	7.21	11.0	2.40	3.36	0.37	1.04	1.41	4.40	0.24	0.25	<0.10	16.18	10.0	4.3	11.3	58.5
110	111088	605	S-2	M	7.25	16.0	1.8	2.46	0.41	1.09	1.50	3.18	0.20	0.27	<0.10	12.11	10.5		12.7	41.2
130	111088	740	S-2	M	7.14	15.0	2.10	2.23	0.40	1.08	1.48	2.88	0.20	0.26	<0.10	16.69	11.0	3.8	12.5	61.6
127	111088	940	S-2	M	7.12	8.5		1.97	0.36	1.02	1.38	4.84	0.20	0.26	<0.10	6.41	11.5	4.6	15.5	79.1
124	111088	1144	S-2	M	7.35	8.65	0.65	2.20	0.40	1.08	1.48	2.79	0.28	0.21	0.07	19.92	10.5	6.1	13.6	66.6
153	111088	1344	S-2	M	7.46	9.3	1.8	2.16	0.37	1.18	1.55	3.58	0.27	0.20	0.07	8.30	12.0	6.8	12.9	27.4
156	111088	1435	S-2	M	7.60	11.0	1.9	4.04	0.39	1.13	1.52	3.93	0.20	0.21	<0.10	16.92		7.2	12.4	35.6
159	111088	1659	S-2	M	7.59	21.5	2.84	3.72	0.40	1.05	1.45	9.46	0.22	0.18	0.04	21.44	14.0	6.6	12.0	69.8
166	111088	1855	S-2	M	7.46	17.0	1.4	2.54	0.43	1.12	1.55	4.27	0.25	0.24	0.01	21.50	14.0	6.7	12.8	72.5
191	111088	2115	S-2	M	7.23	11.0	1.0	1.66	0.33	1.05	1.38	2.13	0.22	0.18	0.04	4.15	12.0	5.5	15.0	43.2
188	111088	2250	S-2	M	7.28	6.6	1.4	1.86	0.38	1.12	1.50	5.21	0.23	0.21	0.02	2.70	12.0	6.7	13.9	48.8
198	111188	130	S-2	M	7.39	15.0	1.8	5.03	0.44	1.08	1.52	4.26	0.37	0.23	0.14	10.15	9.5	7.5	12.3	38.0
201	111188	335	S-2	M	7.48	12.0	2.30	3.48	0.43	1.04	1.47	4.42	0.28	0.24	0.04	13.66	10.0	5.6	11.8	47.2
204	111188	535	S-2	M	7.38	15.0	3.05	3.02	0.43	1.03	1.46	4.13	0.31	0.25	0.06	14.39	10.0	4.1	11.6	46.0
207	111188	743	S-2	M	7.41	15.0	2.10	1.90	0.41	1.11	1.52	3.19	0.28	0.22	0.06	5.19	11.0	3.4	13.8	59.2
225	111188	935	S-2	M	7.41	12.0	0.8	1.58	0.31	1.03	1.34	2.19	0.26	0.19	0.07	4.93	11.0	5.5	15.4	46.3
228	111188	1130	S-2	M	7.45	8.4	0.8	1.64	0.35	1.08	1.43	2.78	0.26	0.20	0.06	6.15	12.5	5.6	14.8	31.7
240	111188	1346	S-2	M	7.41		1.45	2.147	0.42	1.10	1.52	8.24	0.33	0.20	0.13	16.46	12.0	7.5	13.3	74.2
249	111188	1637	S-2	M	7.33	13.0	1.7	3.52	0.40	0.96	1.36	4.63	0.36	0.27	0.09	16.21	10.0	6.7	10.7	36.0
252	111188	1750	S-2	M	7.30	11.75	2.00	3.62	0.39	0.99	1.38	4.35	0.36	0.27	0.09	28.08	10.0	8.50	10.8	24.4
266	111188	2017	S-2	M	7.5	19.0	1.6	2.46	0.43	1.08	1.51	3.54	0.43	0.27	0.16	20.16	10.0	3.8	12.9	46.4
263	111188	2205	S-2	M	7.6	11.0	1.3	2.53	0.41	1.10	1.51	3.26	0.30	0.26	0.04	9.14	10.0	4.2	12.9	24.8
269	111188	2355	S-2	M	7.1	10.5	1.1	2.26	0.42	1.10	1.52	4.70	0.26	0.26	<0.10	8.65	9.5	4.6	13.5	21.2
282	111288	227	S-2	M	7.36	18.5	1.15	2.66	0.44	1.02	1.46	3.54		0.24		16.98	9.0	6.75	12.0	58.6
116	111088	340	S-3	M	7.41	17.0	5.58	4.27	0.41	1.13	1.54	5.76	<0.10	0.21	-0.21	27.84	7.5	4.7	11.6	37.2
108	111088	530	S-3	M	7.25	18.0	2.70	3.08	0.43	1.02	1.45	4.64	0.17	0.49	-0.32	21.39	9.0	4.3	11.7	58.4
128	111088	715	S-3	M	7.8	17.0	1.4	1.31	0.28	1.21	1.49	2.03	0.16	0.19	<0.10	3.65	10.0	3.0	14.3	27.2
125	111088	915	S-3	M	7.31	7.6	1.10	1.25	0.22	0.95	1.17	2.38	0.22	0.17	0.05	<1.10	14.0	6.0	17.1	31.6
122	111088	1114	S-3	M	7.30	8.55	1.55	1.97	0.35	1.13	1.48	2.56	0.27	0.50	-0.23	9.84	15.5	5.8	14.2	37.2
151	111088	1312	S-3	M	7.55	6.6	2.00	2.35	0.38	1.10	1.48	2.93	0.18	0.21	<0.10	14.12	15.0	7.5	13.3	37.2
154	111088	1402	S-3	M	7.53	16.0	1.9	2.40	0.40	1.13	1.53	3.57	0.15	0.21	<0.10	18.50	12.0	6.5	12.5	41.6
157	111088	1605	S-3	M	7.63	14.5	2.3	2.63	0.38	1.14	1.52	6.90	0.17	0.19	<0.10	10.08	14.0	6.9	12.1	50.2
164	111088	1811	S-3	M	7.60	16.0	2.40	3.62	0.44	1.07	1.51	5.23	0.27	0.23	0.04	13.60	13.0	4.7	11.9	58.0
189	111088	2020	S-3	M	7.30	13.0	1.8	2.44	0.43	1.10	1.53	3.12	0.27	0.23	0.04	9.22	13.0	6.3	12.8	31.2
186	111088	2205	S-3	M	7.33	9.8	1.7	2.51	0.43	1.10	1.53	3.53	0.26	0.24	0.02	4.85	14.0	5.0	12.9	34.0
196	111188	105	S-3	M	7.46	14.0	2.00	2.71	0.44	1.10	1.54	3.63	0.29	0.24	0.05	14.30	9.5	6.2	12.1	42.8

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
218	111188	900	M-2	M	7.17	23.0	4.35	2.22	0.41	1.12	1.53	2.99	0.33	0.23	0.10	11.93	17.0	6.8	13.1	76.0
220	111188	1000	M-2	M	7.24	8.0	0.9	2.08	0.40	1.14	1.54	3.31	0.29	0.22	0.07	9.50	17.0	6.6	13.7	54.7
222	111188	1100	M-2	M	7.26	7.4	1.3	2.25	0.41	1.16	1.57	2.81	0.30	0.22	0.08	1.65	14.0	6.3	13.7	29.5
232	111188	1200	M-2	M	7.27	6.2	2.20	2.08	0.45	1.24	1.69	2.87	0.33	0.21	0.12	16.19	14.0	7.0	12.5	48.0
234	111188	1300	M-2	M	7.35	7.45	2.20	1.99	0.42	1.41	1.83	3.10	0.37	0.19	0.18	24.27	14.0	7.4	12.0	63.2
254	111188	1920	M-2	M	7.50	18.0	2.98	3.19	0.39	1.11	1.50	4.05	0.32	0.18	0.14	31.30	12.0	4.9	11.7	46.8
257	111188	2020	M-2	M	7.20	13.0	2.10	3.14	0.42	1.28	1.70	3.79	0.21	0.28	<0.10	16.99	13.5	4.5	11.7	38.8
256	111188	2120	M-2	M	7.60	13.0	2.00	3.00	0.42	1.10	1.52	4.00	0.31	0.26	0.05	32.71	12.5	3.6	12.0	28.0
255	111188	2220	M-2	M	7.60	10.5	2.00	2.86	0.42	1.14	1.56	3.80	0.28	0.26	0.02	21.95	12.0	4.3	12.1	22.3
258	111188	2250	M-2	M	7.40	11.0	1.7	2.76	0.43	1.29	1.72	3.08	0.33	0.27	0.06	23.60	10.0	6.0	11.7	26.8
259	111188	2320	M-2	M	7.20	18.0	1.6	2.59	0.43	1.15	1.58	2.86	0.33	0.27	0.06	9.13	11.0	4.1	12.3	52.8
260	111188	2350	M-2	M	7.30	15.0	1.5	2.65	0.42	1.09	1.51	3.09	0.39	0.28	0.11	6.73	10.0	5.5	12.3	44.4
261	111288	20	M-2	M	7.70	18.0	1.8	2.62	0.41	1.11	1.52	4.22	0.32	0.26	0.06	10.18	10.0	5.0	12.1	41.2
275	111288	50	M-2	M	7.2	20.0										25.73		5.2	11.7	60.8
133	111088	710	M-3	M	7.12	33.0	3.50	2.52	0.20	1.51	1.71	3.58	0.15	0.53	-0.38	27.75	10.0	6.7	12.3	80.8
135	111088	725	M-3	M	7.9	21.0	2.80	2.69	0.38	1.06	1.44	4.31	<0.10	0.19	-0.19	33.72	12.0	6.9	12.0	90.0
137	111088	745	M-3	M	7.5	18.0	2.72	2.55	0.39	1.07	1.46	3.91	0.13	0.21	<0.10	17.60	12.0	6.7	12.4	86.4
139	111088	800	M-3	M	7.9	16.0		1.81	0.39	1.15	1.54	3.64	0.16	0.20	<0.10	23.79	12.0	6.2	12.2	58.8
141	111088	815	M-3	M	7.8	17.0	2.70	2.71	0.41	1.17	1.58	4.84	0.20	0.23	<0.10	19.58	12.0	6.7	12.1	59.5
143	111088	845	M-3	M	7.13	24.0	2.80	2.65	0.41	1.19	1.60	4.19	0.27	0.22	0.05	18.36	15.0	6.7	12.4	26.4
144	111088	945	M-3	M	7.6	12.0	4.45	2.29	0.42	1.12	1.54	4.22	0.15	0.17	<0.10	14.39	15.0	5.9	12.4	94.4
146	111088	1045	M-3	M	7.1	14.0	2.92	2.66	0.40	1.23	1.63	4.06	0.13	0.20	<0.10	26.34	15.0	6.2	12.3	34.8
148	111088	1145	M-3	M	7.1	6.3	2.20	2.38	0.40	1.37	1.77	3.26	0.27	0.19	0.08	23.14	14.0	5.9	12.3	36.1
150	111088	1245	M-3	M	7.3	5.1	1.6	1.66	0.30	1.50	1.80	2.40	0.25	0.13	0.13	11.33	14.0	7.1	12.2	17.6
178	111088	2030	M-3	M	7.39	22.0	2.1	2.72	0.42	1.10	1.52	4.53	0.13	0.22	<0.10	12.62	13.0		11.5	56.2
180	111088	2120	M-3	M	7.33	11.0	1.3	2.70	0.44	1.12	1.56	3.83	0.12	0.22	<0.10	12.87	13.0	7.3	12.3	38.4
182	111088	2220	M-3	M	7.27	8.5	2.0	2.27	0.38	1.11	1.49	3.08	0.26	0.08	0.18	14.81	13.0	6.0	12.1	48.0
215	111188	805	M-3	M	7.38	23.0	2.65	2.90	0.38	0.97	1.35	4.21	0.41	0.19	0.22	22.57	12.0	6.7	12.0	80.0
219	111188	905	M-3	M	7.23	9.0	2.50	2.66	0.43	1.13	1.56	3.95	0.37	0.22	0.15	11.56	14.0	6.8	12.3	54.7
221	111188	1005	M-3	M	7.28	9.8	1.7	2.45	0.45	1.15	1.60	3.71	0.37	0.22	0.15	18.76	15.0	7.1	12.5	66.7
223	111188	1105	M-3	M	7.33	6.0	1.9	2.45	0.44	1.19	1.63	3.26	0.29	0.21	0.08	31.47	13.0	7.4	12.5	39.2
233	111188	1205	M-3	M	7.32	4.4	2.10	2.13	0.44	1.49	1.93	2.76	0.28	0.18	0.10	26.34	16.0	7.2	11.8	37.6
109	110988	555	S-1	M	7.20	15.0	1.6	2.25	0.41	1.10	1.51	3.47	0.13	0.24	-0.11	13.59	10.0	2.8	12.8	25.2
129	111088	730	S-1	M	7.11	13.0	1.4	1.58	0.30	1.08	1.38	4.40	0.18	0.24	<0.10	7.16	10.5	5.6	15.3	27.2
126	111088	930	S-1	M	7.40	8.6	1.2	1.26	0.25	1.00	1.25	3.26	0.22	0.19	0.03	2.76	12.0	4.0	15.9	69.6
123	111088	1130	S-1	M	7.29	8.45	0.3	1.61	0.32	1.09	1.41	3.01	0.25	0.19	0.06	10.86	11.5	4.1	14.8	37.4
152	111088	1320	S-1	M	7.45	1.8	1.7	2.55	0.39	1.09	1.48	4.17	0.26	0.21	0.05	16.86	12.0	7.2	12.4	44.0
155	111088	1415	S-1	M	7.57	18.0	1.8	2.82	0.39	1.13	1.52	3.94	0.11	0.21	<0.10	6.45	11.5	6.0	12.9	44.8
158	111088	1629	S-1	M	7.56	13.5	2.9	3.58	0.40	1.36	1.76	5.24	0.22	0.20	0.02	21.58	13.0	7.3	12.2	40.4
165	111088	1830	S-1	M	7.28	16.0		2.41	0.42	1.14	1.56	4.22	0.27	0.24	0.03	3.84	13.0	6.9	NS	
190	111088	2050	S-1	M	7.25	11.0	0.9	1.82	0.37	1.09	1.46	2.53	0.23	0.21	0.02	2.23	14.0	7.4	14.4	38.1
187	111088	2228	S-1	M	7.29	8.4	1.4	1.80	0.42	1.13	1.55	4.00	0.23	0.22	0.01	1.75	13.0	6.8	13.5	28.8
197	111188	120	S-1	M	7.41	16.0	1.8	2.81	0.44	1.10	1.54	5.12	0.26	0.24	0.02	15.12	10.0	5.3	12.5	65.0
200	111188	320	S-1	M	7.51	15.0	2.10	3.59	0.44	1.05	1.49	3.27	0.29	0.23	0.06	15.41	9.5	5.1	12.1	33.2
203	111188	520	S-1	M	7.37	13.0	3.20	2.87	0.43	1.05	1.48	3.63	0.32	0.26	0.06	11.78	9.5	3.7	12.1	51.0
206	111188	730	S-1	M	7.38	15.0	2.90	1.87	0.39	1.08	1.47	3.19	0.29	0.20	0.09	7.62	10.0	5.6	14.2	49.2

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

NOVEMBER 8-12, 1988 EVENT

SAMPLE #	DATE	TIME	SITE	DEPTH	pH	TURBIDITY ntu	CBOD5 mg/l	NH3 mg/l	NO2 mg/l	NO3 mg/l	NO3/NO2 mg/l	TKN mg/l	TPO4 mg/l	OPO4 mg/l	ORGANIC PO4 mg/l	CHLORO-a mg/m3	TEMP C	D.O. mg/l	SALINITY ppt	TSS mg/l
113	111088	430	M-1	M	7.30	6.6	3.90	4.03	0.30	1.15	1.45	5.48	0.14	0.18	<0.10	31.27	10.0	7.0	11.7	24.8
115	111088	530	M-1	M	7.30	7.2	3.38	3.74	0.29	1.19	1.48	5.06	0.12	0.17	<0.10	4.90	10.0	6.6	11.9	26.8
131	111088	730	M-1	M	7.21	8.3	3.25	4.54	0.34	1.36	1.70	5.57	0.31	0.16	0.15	36.85		6.8	12.1	35.6
119	111088	930	M-1	M	7.39	8.5	2.40	3.43	0.38	1.08	1.46	4.22	0.18	0.22	<0.10	22.90	11.0	6.9	11.8	31.6
120	111088	1100	M-1	M	7.33	9.6	2.30	2.74	0.36	1.26	1.62	3.57	0.12	0.22	<0.10	26.07	11.0	5.1	12.3	27.2
160	111088	1315	M-1	M	7.59	11.0	2.50	3.70	0.37	1.13	1.50	5.18	0.27	0.18	0.09	35.41	13.0	7.0	11.9	33.5
161	111088	1500	M-1	M	7.6.	10.0	2.92	3.34	0.37	1.22	1.59	5.53	0.25	0.18	0.07	40.70	12.0	6.7	11.9	34.0
171	111088	1700	M-1	M	7.61	10.0	3.78			0						23.48	11.0	5.7	11.7	38.0
172	111088	1900	M-1	M	7.61	13.0	2.90			0						19.27	11.5	8.9	11.8	35.2
173	111088	2100	M-1	M	7.43	9.5	2.80	3.83	0.41	1.12	1.53	4.99	0.32	0.17	0.15	33.54	12.0	9.4	12.1	30.8
175	111088	2255	M-1	M	7.37	12.0	1.8	2.52	0.43	1.10	1.53	3.18	0.29	0.23	0.06	16.99	12.5	7.2	12.8	31.2
192	111188	100	M-1	M	7.34	8.3	2.10	3.27	0.39	1.17	1.56	3.13	0.28	0.20	0.08	7.98	10.0	7.6	12.2	26.69
195	111188	320	M-1	M	7.46	7.9	2.20	3.41	0.36	1.10	1.46	4.68	0.30	0.18	0.12	21.17	10.0	8.1	11.8	32.0
208	111188	505	M-1	M	7.35	11.0	2.40	4.04	0.31	0.98	1.29	5.35	0.24	0.17	0.07	25.89	8.0	5.7	11.7	38.0
211	111188	700	M-1	M	7.40	11.0	3.00	4.50	0.37	0.96	1.33	6.43	0.29	0.20	0.09	25.49	8.0	5.6	11.5	37.2
210	111188	700	M-1	M	7.37	11.0	3.25	4.25	0.38	0.98	1.36	5.45	0.29	0.20	0.09	25.17	8.0	5.7	11.5	58.4
230	111188	915	M-1	M	7.43	8.1	2.2	4.02	0.39	1.01	1.40	5.67	0.34	0.20	0.14	32.85	11.0	6.7	12.0	26.4
235	111188	1100	M-1	M	7.38	8.9	2.10	3.46	0.41	1.11	1.52	4.10	0.31	0.22	0.09	30.56	12.0	7.1	12.2	50.7
238	111188	1300	M-1	M	7.50	7.0	2.40	3.39	0.39	1.17	1.56	5.19	0.31	0.20	0.11	19.15	11.0	8.2	12.0	30.0
242	111188	1500	M-1	M	7.70	12.0	2.89	3.15	0.38	1.25	1.63	3.70	0.30	0.19	0.11	30.71	10.5	6.4	12.0	27.6
244	111188	1700	M-1	M	7.30	16.0	4.93	3.64	0.36	1.17	1.53	3.98	0.43	0.17	0.26	33.76	9.5	8.3	11.8	39.6
246	111188	1900	M-1	M	7.5	11.0	3.38	4.06	0.31	1.19	1.50	4.79	0.33	0.17	0.16	40.92	9.0	9.3	11.4	28.0
271	111188	2100	M-1	M	7.55	13.0	3.15	4.15	0.37	1.06	1.43	4.16	0.23	0.18	0.05	26.44	10.0	6.1	11.7	40.4
273	111188	2300	M-1	M	7.6	15.0	2.925	3.87	0.40	1.11	1.51	3.63	0.27	0.23	0.04	14.68	8.0		11.8	39.8
276	111288	100	M-1	M	7.5	10.0	3.10									13.89	7.5	7.4	11.7	22.4
278	111288	300	M-1	M	7.56	10.0	3.80	3.57	0.36	1.09	1.45	4.06		0.18		44.79	8.0	7.1	11.6	30.8
111	111088	525	M-2	M	7.15	12.0	2.70	2.76	0.39	1.12	1.51	4.26	<0.10	0.22	-0.22	23.97		6.2	9.79	36.8
134	111088	620	M-2	M	7.8	16.0	2.10	2.99	0.40	1.02	1.42	4.74	0.22	0.21	0.01	20.23	14.0	6.2	12.0	65.2
136	111088	720	M-2	M	7.7	22.0	2.10	2.40	0.40	1.11	1.51	3.42	0.12	0.25	-0.13	26.21	16.0	6.3	12.6	22.4
138	111088	820	M-2	M	7.10	16.0	2.50	1.80	0.38	1.16	1.54	3.37	0.14	0.22	<0.10	7.09	16.0	6.7	13.6	30.8
140	111088	915	M-2	M	7.6	15.0		1.70	0.35	1.17	1.52	3.02	0.18	0.21	<0.10	5.45	17.0	6.5	14.0	40.4
142	111088	1015	M-2	M	7.8	10.0	2.00	1.78	0.35	1.18	1.53	2.73	0.19	0.21	<0.10	12.57	18.0	6.1	14.4	26.0
145	111088	1115	M-2	M	7.4	11.0	1.8	2.05	0.39	1.23	1.62	3.07	0.23	0.22	0.01	11.99	14.0	6.6	13.7	36.8
147	111088	1215	M-2	M	7.2	13.0	2.00	2.10	0.39	1.32	1.71	3.59	0.21	0.20	0.01	21.58	17.0	6.6	12.6	43.6
149	111088	1315	M-2	M	7.0	20.0	1.9	2.15	0.34	1.48	1.82	3.11	0.16	0.20	<0.10	16.65	19.0	6.9	12.3	50.8
167	111088	1800	M-2	M	7.56	14.0	3.15	4.41	0.40	1.09	1.49	6.14	0.20	0.22	<0.10	16.83	13.5	7.6	12.4	40.0
168	111088	1900	M-2	M	7.55	15.0	2.20	3.06	0.37	1.13	1.50	5.01	0.24	0.18	0.06	12.97	13.0	9.1	11.6	47.2
177	111088	2000	M-2	M	7.31	19.0	2.4	2.70	0.44	1.12	1.56	3.62	0.13	0.24	-0.11	7.77	14.0	6.8	12.2	52.0
179	111088	2100	M-2	M	7.52	19.0	1.2	2.29	0.43	1.10	1.53	4.01	0.11	0.23	-0.12	7.23	13.0	6.8	13.0	69.2
181	111088	2200	M-2	M	7.30	8.6	0.8	2.27	0.46	1.21	1.67	2.69	0.24	0.23	0.01	15.10	13.0	5.2	12.9	39.2
183	111088	2300	M-2	M	7.26	16.0	1.6	2.43	0.45	1.19	1.64	3.16	0.33	0.23	0.10	27.51	12.0	4.9	12.3	63.6
184	111188	0	M-2	M	7.25	18.0	2.50	1.99	0.37	1.44	1.81	2.81	0.24	0.21	0.03	<1.42	13.0	4.8	12.3	44.4
185	111188	30	M-2	M	7.17	22.0	2.00	1.90	0.31	1.02	1.33	2.81	0.37	0.23	0.14	16.59	12.0	3.6	12.5	72.4
214	111188	600	M-2	M	7.34	11.0	2.10	2.84	0.40	1.09	1.49	4.26	0.35	0.23	0.12	21.68	12.0	6.0	12.0	51.6
216	111188	700	M-2	M	7.38	20.0	2.00	3.15	0.42	1.05	1.47	3.91	0.39	0.24	0.15	20.14	15.0	6.7	11.7	68.7
217	111188	800	M-2	M	7.34	23.0	2.40	2.62	0.44	1.10	1.54	3.64	0.44	0.24	0.20	4.79	16.0	6.3	12.3	60.8

General Testing Corporation

SECTION 19

ANALYTICAL DATA

TIDAL MARSH STUDY

NOVEMBER 8-12, 1988 EVENT

General Testing Corporation

SECTION 20

ANALYTICAL DATA

CSO AND STORM SEWER LOCATIONS

MAY 1-2, 1989, STORM EVENT

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 1-2, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
6	C3-A	5/1/89	21.45	53.70	67.20	6.70	3.50	0.47	0.05	0.42	6.00
7	C3-A	5/1/89	22.40	45.60	61.40	6.77	3.42	0.59	0.06	0.53	6.10
8	C3-A	5/1/89	23.05	41.70	102.30	6.41	2.83	0.58	<0.05	0.58	6.10
9	C3-A	5/1/89	23.30	31.20	107.70	5.97	2.10	0.57	<0.05	0.57	5.90
10	C3-A	5/2/89	0.15	29.70	106.30	3.96	2.02	0.60	0.05	0.55	6.00
11	C3-A	5/2/89	0.45	29.10	97.50	6.79	1.06	0.60	<0.05	0.60	6.00
12	C3-A	5/2/89	1.18	23.40	245.50	2.18	1.28	0.47	<0.05	0.47	6.00
13	C3-A	5/2/89	1.50	18.00	195.40	1.26	0.80	0.47	<0.05	0.47	6.00
14	C3-A	5/2/89	3.00	14.40	62.40	3.60	1.99	0.68	0.05	0.63	6.10
15	C3-A	5/2/89	4.00	19.20	60.40	4.96	2.28	0.72	0.05	0.67	6.10
43	C3-A	5/2/89	5.05	20.80	33.60	3.04	2.18	0.73	<0.05	0.73	6.20
44	C3-A	5/2/89	5.20	9.70	45.40	2.33	1.58	0.64	<0.05	0.64	6.30
45	C3-A	5/2/89	5.40	12.90	16.35	3.84	1.98	0.72	<0.05	0.72	6.40
46	C3-A	5/2/89	5.55	13.60	40.90	4.66	1.86	0.66	<0.05	0.66	6.50
47	C3-A	5/2/89	6.10	11.40	39.00	3.58	1.21	0.54	<0.05	0.54	6.00
48	C3-A	5/2/89	6.30	11.00	36.30	2.54	1.07	0.54	<0.05	0.54	6.10
49	C3-A	5/2/89	7.25	17.20	97.20	2.71	0.96	0.36	<0.05	0.36	6.20
50	C3-A	5/2/89	7.40	20.85	248.00	4.09	1.29	0.36	<0.05	0.36	6.20
51	C3-A	5/2/89	8.05	17.10	229.00	3.05	1.02	0.25	<0.05	0.25	6.30
52	C3-A	5/2/89	8.40	12.00	232.00	3.26	0.53	0.21	<0.05	0.21	6.30
53	C3-A	5/2/89	9.20	13.20	119.00	0.869	0.70	0.35	<0.05	0.35	5.80

STATION LOCATION	STATION DESCRIPTION
C3-A	Court Street Land Use Station
C9-A	SIP Avenue Land Use Station
C12-A	St. Paul Land Use Station
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Strom Sewer

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 1-2, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
72	C9-A	5/1/89	19.30	112.00	81.30	11.9	3.42	0.08	<0.05	0.08	6.00
73	C9-A	5/1/89	19.45	96.60	141.00	7.43	1.75	0.12	0.05	0.07	5.90
74	C9-A	5/1/89	20.30	65.40	52.00	6.99	2.47	0.55	0.05	0.50	6.00
75	C9-A	5/1/89	21.00	61.80	55.60	6.67	2.35	0.52	0.09	0.43	6.00
76	C9-A	5/1/89	21.30	58.20	64.40	4.52	2.48	0.63	<0.05	0.63	5.90
77	C9-A	5/1/89	22.00	93.50	86.70	12.0	2.92	0.61	0.09	0.52	6.00
78	C9-A	5/1/89	23.00	55.80	48.80	77.7	2.36	0.67	0.05	0.62	6.00
79	C9-A	5/2/89	1.00	51.00	44.10	8.55	2.67	0.80	0.05	0.75	5.90
80	C9-A	5/2/89	1.30	102.35	607.30	2.33	1.09	0.26	<0.05	0.26	6.00
81	C9-A	5/2/89	1.54	42.00	185.00	1.67	0.61	0.40	0.58	0.18	5.70
82	C9-A	5/2/89	2.07	20.10	50.00	3.10	1.05	0.59	0.05	0.54	5.70
83	C9-A	5/2/89	2.23	20.70	42.40	3.46	1.21	0.72	<0.05	0.72	5.90
84	C9-A	5/2/89	3.30	14.60	14.90	6.67	3.44	1.23	<0.05	1.23	6.00
85	C9-A	5/2/89	4.30	17.10	12.10	3.70	1.78	0.95	<0.05	0.95	6.20
86	C9-A	5/2/89	5.03	12.30	22.60	3.71	0.77	0.26	<0.05	0.26	5.80
87	C9-A	5/2/89	5.07	21.30	50.50	7.75	2.51	0.72	<0.05	0.72	6.00
88	C9-A	5/2/89	5.17	17.70	30.00	4.64	0.098	0.27	<0.05	0.27	6.20
89	C9-A	5/2/89	5.21	15.80	60.40	2.29	0.64	0.31	<0.05	0.31	6.00
90	C9-A	5/2/89	5.35	16.60	125.00	2.03	0.48	0.22	<0.05	0.22	6.00
91	C9-A	5/2/89	5.49	13.60	31.20	2.67	0.61	0.22	<0.05	0.22	5.90
92	C9-A	5/2/89	6.30	19.50	25.40	4.63	1.41	0.28	<0.05	0.28	5.90
93	C9-A	5/2/89	6.44	27.90	37.30	9.71	1.78	0.33	<0.05	0.33	6.10
94	C9-A	5/2/89	7.01	28.80	22.60	4.59	2.06	0.35	<0.05	0.35	6.30
95	C9-A	5/2/89	7.15	25.80	150.00	2.89	0.92	0.16	<0.05	0.16	6.30
96	C9-A	5/2/89	7.29	21.30	60.00	8.02	1.23	0.25	<0.05	0.25	6.20
97	C9-A	5/2/89	7.42	32.70	75.50	9.05	2.08	0.38	0.05	0.33	6.20
98	C9-A	5/2/89	7.56	16.50	58.50	4.43	1.00	0.22	<0.05	0.22	5.90
99	C9-A	5/2/89	8.10	16.35	54.80	3.83	1.03	0.26	<0.05	0.26	6.00
100	C9-A	5/2/89	8.40	31.50	128.00	6.74	2.67	0.52	0.05	0.47	6.10
69	C9-A	5/2/89	8.50	<6.00	50.50	0.805	0.26	0.27	<0.05	0.27	5.70
101	C9-A	5/2/89	8.54	22.80	125.00	3.83	1.41	0.37	<0.05	0.37	6.20
102	C9-A	5/2/89	9.10	21.00	49.50	5.33	1.35	0.42	<0.05	0.42	6.10
70	C9-A	5/2/89	9.30	<6.00	50.00	0.507	0.29	0.31	<0.05	0.31	5.70
71	C9-A	5/2/89	9.49	11.40	110.00	0.645	0.30	0.34	<0.05	0.34	5.80

STATION LOCATION	STATION DESCRIPTION
C3-A	Court Street Land Use Station
C9-A	SIP Avenue Land Use Station
C12-A	St. Paul Land Use Station
13	E. River Storm Sewer

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 1-2, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBODS MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
103	C12-A	5/1/89	19.15	82.80	181.00	10.7	4.25	0.00	<0.05	0.00	6.20
104	C12-A	5/1/89	19.30	76.20	248.00	6.65	2.96	0.19	<0.05	0.19	6.20
105	C12-A	5/1/89	19.45	65.70	156.00	7.43	2.07	0.36	0.05	0.31	6.20
106	C12-A	5/1/89	20.15	49.80	86.80	4.25	2.03	0.59	0.05	0.54	6.20
133	C12-A	5/1/89	20.45	32.10	77.65	4.12	1.57	0.62	0.05	0.57	6.30
107	C12-A	5/1/89	21.30	34.50	115.00	4.97	1.75	0.68	0.05	0.63	6.30
108	C12-A	5/1/89	22.30	40.20	66.80	7.82	2.08	0.70	0.06	0.64	5.90
109	C12-A	5/1/89	23.30	27.90	79.20	42.2	1.99	0.70	0.08	0.62	6.00
110	C12-A	5/2/89	0.15	27.15	520.00	3.61	1.82	0.65	0.06	0.59	6.20
111	C12-A	5/2/89	0.35	48.60	434.00	3.38	1.39	0.31	<0.05	0.31	6.20
112	C12-A	5/2/89	0.50	24.60	314.00	1.76	0.90	0.32	<0.05	0.32	6.20
113	C12-A	5/2/89	1.00	15.40	199.00	1.31	0.67	0.41	<0.05	0.41	6.10
114	C12-A	5/2/89	1.15	28.50	192.00	1.99	1.01	0.47	0.05	0.42	6.10
115	C12-A	5/2/89	1.30	17.40	134.00	2.59	1.13	0.60	0.05	0.55	6.10
116	C12-A	5/2/89	1.55	29.40	84.00	4.25	1.55	0.83	0.05	0.78	6.10
117	C12-A	5/2/89	4.50	11.40	18.60	0.921	0.48	0.80	0.05	0.75	6.30
118	C12-A	5/2/89	5.10	16.50	46.00	3.76	1.55	0.64	<0.05	0.64	6.40
119	C12-A	5/2/89	5.30	10.80	48.50	1.88	0.59	0.33	0.05	0.28	6.40
120	C12-A	5/2/89	5.45	9.45	58.80	1.38	0.46	0.25	<0.05	0.25	6.50
121	C12-A	5/2/89	6.00	7.50	54.00	1.53	0.50	0.25	<0.05	0.25	6.50
122	C12-A	5/2/89	6.15	9.00	47.20	2.39	0.67	0.26	<0.05	0.26	6.40
123	C12-A	5/2/89	6.55	22.40	47.40	6.06	1.26	0.34	<0.05	0.34	6.40
125	C12-A	5/2/89	7.10	16.60	157.00	3.49	0.69	0.22	<0.05	0.22	6.60
124	C12-A	5/2/89	7.30	28.80	248.00	4.31	0.10	0.24	0.05	0.19	6.60
126	C12-A	5/2/89	7.45	20.40	118.00	4.18	1.17	0.31	0.05	0.26	6.20
127	C12-A	5/2/89	8.00	52.80	135.00	3.22	1.09	0.27	0.05	0.22	10.70
128	C12-A	5/2/89	8.15	17.70	119.00	3.25	0.71	0.28	0.05	0.23	8.20
129	C12-A	5/2/89	8.30	25.20	83.60	4.30	1.43	0.42	0.05	0.37	8.20
130	C12-A	5/2/89	9.00	25.50	103.00	3.07	2.88	0.46	<0.05	0.46	7.70
131	C12-A	5/2/89	9.30	20.40	81.60	3.98	1.40	0.46	0.05	0.41	7.20
132	C12-A	5/2/89	10.00	22.80	62.80	4.24	1.18	0.48	0.05	0.43	6.50

STATION LOCATION	STATION DESCRIPTION
C3-A	Court Street Land Use Station
C9-A	SIP Avenue Land Use Station
C12-A	St. Paul Land Use Station
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Storm Sewer

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 1-2, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
16	C13	5/1/89	19.30	<6.00	19.80	1.70	1.20	0.87	<0.05	0.87	6.10
17	C13	5/1/89	19.50	17.80	55.40	2.27	1.40	1.06	0.05	1.01	6.10
18	C13	5/1/89	20.16	9.30	26.80	1.14	0.77	1.30	<0.05	1.30	6.20
19	C13	5/1/89	20.41	16.20	33.20	1.13	0.72	1.35	<0.05	1.35	6.10
20	C13	5/1/89	21.04	14.25	33.00	1.41	0.79	0.95	<0.05	0.95	6.00
21	C13	5/1/89	21.20	8.40	24.40	1.19	0.62	0.84	<0.05	0.84	6.00
22	C13	5/1/89	21.43	9.60	19.00	1.34	0.55	0.91	0.05	0.86	6.00
23	C13	5/1/89	22.09	15.90	8.50	1.64	0.60	0.77	<0.05	0.77	5.90
24	C13	5/1/89	22.35	6.90	14.50	1.78	0.64	0.65	<0.05	0.65	5.80
25	C13	5/1/89	23.03	6.90	61.50	1.54	0.52	0.64	<0.05	0.64	5.80
26	C13	5/2/89	0.05	<6.00	32.75	1.11	0.52	0.57	<0.05	0.57	6.00
54	C13	5/2/89	0.40	<6.00	41.50	1.16	0.42	0.58	<0.05	0.58	6.00
55	C13	5/2/89	1.20	<6.00	101.50	0.920	0.42	0.58	<0.05	0.58	6.00
56	C13	5/2/89	1.40	<6.00	40.80	1.19	1.05	0.60	<0.05	0.60	5.90
57	C13	5/2/89	2.35	11.10	62.00	1.36	0.75	0.66	<0.05	0.66	6.10
58	C13	5/2/89	3.37	7.20	62.00	1.43	0.40	0.51	<0.05	0.51	6.20
59	C13	5/2/89	4.40	7.20	36.90	1.60	0.74	0.64	<0.05	0.64	6.10
60	C13	5/2/89	5.40	20.55	83.20	1.41	0.52	0.50	<0.05	0.50	5.90
61	C13	5/2/89	6.00	<6.00	49.10	0.941	0.23	0.64	<0.05	0.64	6.00
62	C13	5/2/89	6.14	<6.00	46.50	0.626	0.24	0.48	<0.05	0.48	6.00
63	C13	5/2/89	6.30	<6.00	66.00	0.676	0.20	1.39	<0.05	1.39	6.00
64	C13	5/2/89	7.10	<6.00	38.90	1.16	0.46	0.47	<0.05	0.47	5.90
65	C13	5/2/89	7.20	6.00	136.00	1.34	0.21	0.27	<0.05	0.27	5.90
66	C13	5/2/89	7.38	<6.00	80.00	0.752	0.27	0.35	<0.05	0.35	5.80
67	C13	5/2/89	7.55	6.30	75.50	0.610	0.17	0.24	<0.05	0.24	5.80
68	C13	5/2/89	8.12	9.90	109.00	0.736	0.20	0.20	<0.05	0.20	5.70

STATION LOCATION	STATION DESCRIPTION
C3-A	Court Street Land Use Station
C9-A	SIP Avenue Land Use Station
C12-A	St. Paul Land Use Station
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Strom Sewer

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 1-2, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
1	C14	5/1/89	18.30	2.00	4.60	0.503	0.05	1.45	<0.05	1.45	6.50
2	C14	5/1/89	19.00	2.60	4.00	0.468	0.05	1.40	<0.05	1.40	6.60
3	C14	5/1/89	19.30	2.55	4.60	0.457	0.05	1.40	<0.05	1.40	6.50
4	C14	5/1/89	20.00	6.12	3.60	0.556	0.10	1.45	<0.05	1.45	6.10
5	C14	5/1/89	20.30	4.75	9.70	0.495	0.08	1.46	<0.05	1.46	6.20
27	C14	5/1/89	21:00	6.12	24.40	1.04	0.10	1.44	<0.05	1.44	6.40
28	C14	5/1/89	21.30	8.25	10.40	0.800	0.08	1.25	<0.05	1.25	6.40
29	C14	5/1/89	22.00	9.15	13.20	0.890	0.10	1.25	<0.05	1.25	6.40
30	C14	5/1/89	23.00	12.60	11.00	1.67	0.39	1.12	<0.05	1.12	6.40
31	C14	5/2/89	0.00	7.80	10.20	0.807	0.09	1.06	<0.05	1.06	6.40
32	C14	5/2/89	0.45	8.40	24.40	0.833	0.13	1.01	<0.05	1.01	6.40
33	C14	5/2/89	1.20	15.80	113.00	0.911	0.09	0.90	<0.05	0.90	6.40
34	C14	5/2/89	2.00	18.30	87.00	0.836	0.09	0.75	<0.05	0.75	6.30
35	C14	5/2/89	3.00	7.35	22.50	0.725	<0.05	1.12	<0.05	1.12	6.30
36	C14	5/2/89	4.00	5.88	13.00	0.770	0.05	1.10	<0.05	1.10	6.30
37	C14	5/2/89	5.00	5.90	14.00	1.21	0.09	1.08	<0.05	1.08	6.40
38	C14	5/2/89	6.00	7.20	22.70	1.09	0.12	0.99	<0.05	0.99	6.20
39	C14	5/2/89	6.30	28.80	51.00	1.15	0.08	0.65	<0.05	0.65	6.20
40	C14	5/2/89	7.00	10.35	40.00	0.814	0.10	0.64	<0.05	0.64	6.20
41	C14	5/2/89	7.30	12.60	76.00	1.09	0.06	0.62	<0.05	0.62	6.20
42	C14	5/2/89	8.00	13.80	88.00	0.900	0.07	0.41	<0.05	0.41	6.00

STATION LOCATION	STATION DESCRIPTION
C3-A	Court Street Land Use Station
C9-A	SIP Avenue Land Use Station
C12-A	St. Paul Land Use Station
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Storm Sewer

General Testing Corporation

SECTION 21

ANALYTICAL DATA

STORM SEWER LOCATIONS

(E. RISER AND OVERPECK CREEK)

MAY 23-24, 1989

ANALYTICAL DATA FOR STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 23-24, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	NH3 MG/L	TKN MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
1	C-13	5/23/89	17:30	57.60	23.00	0.783	1.31	0.91	<0.05	0.91	6.20
2	C-13	5/23/89	18:00	32.10	108.00	1.58	2.42	1.07	0.05	1.02	6.00
3	C-13	5/23/89	18:30	22.00	48.00	0.933	2.32	1.32	0.05	1.27	5.90
4	C-13	5/23/89	19:00	34.50	85.00	0.775	2.31	0.85	<0.05	0.85	5.70
5	C-13	5/23/89	19:30	46.80	36.00	0.809	1.37	0.77	<0.05	0.77	5.50
6	C-13	5/23/89	19:45	15.20	24.00	0.415	1.37	0.64	<0.05	0.64	5.40
27	C-13	5/23/89	20:00	12.90	53.00	0.426	1.08	0.58	<0.05	0.58	5.90
28	C-13	5/23/89	20:30	9.30	37.00	0.586	1.20	0.64	<0.05	0.64	5.90
29	C-13	5/23/89	21:00	6.90	50.00	0.437	0.798	0.54	<0.05	0.54	5.90
30	C-13	5/23/89	21:30	6.90	64.00	0.435	0.926	0.52	<0.05	0.52	6.00
31	C-13	5/23/89	22:00	<6.00	43.00	0.624	1.31	0.79	<0.05	0.79	6.00
32	C-13	5/23/89	22:30	<6.00	32.00	0.378	0.724	0.68	<0.05	0.68	5.90
33	C-13	5/23/89	23:00	<6.00	24.00	0.410	0.634	0.66	<0.05	0.66	5.80
34	C-13	5/23/89	23:30	6.30	31.00	0.542	0.901	0.59	<0.05	0.59	5.90
35	C-13	5/24/89	00:00	<6.00	54.00	0.548	0.734	0.66	<0.05	0.66	6.00
36	C-13	5/24/89	00:30	<6.00	34.00	0.554	0.804	0.63	<0.05	0.63	6.00
37	C-13	5/24/89	01:00	<6.00	29.00	0.473	0.693	0.52	<0.05	0.52	5.90
38	C-13	5/24/89	01:30	<6.00	16.00	0.468	0.506	0.75	<0.05	0.75	5.90
39	C-13	5/24/89	02:00	<6.00	18.00	0.456	1.01	0.66	<0.05	0.66	5.90
40	C-13	5/24/89	02:30	<6.00	10.40	0.269	0.628	0.79	<0.05	0.79	5.90
41	C-13	5/24/89	03:00	<6.00	13.20	0.330	2.27	0.58	<0.05	0.58	5.70
1	C-14	5/23/89	17:45	<6.00	5.50	0.314	0.557	0.97	<0.05	0.97	7.00
2	C-14	5/23/89	18:15	<6.00	8.39	0.070	0.466	1.08	<0.05	1.08	7.00
3	C-14	5/23/89	18:45	11.20	7.00	0.213	0.871	0.97	<0.05	0.97	6.90
4	C-14	5/23/89	19:15	18.30	10.00	0.313	1.54	0.78	0.05	0.73	6.70
5	C-14	5/23/89	19:30	15.40	21.50	0.386	1.37	0.78	0.05	0.73	6.50
6	C-14	5/23/89	19:45	18.90	25.50	0.415	1.36	1.60	0.05	1.55	6.40
7	C-14	5/23/89	19:55	14.10	36.00	0.408	1.37	1.06	<0.05	1.06	6.30
8	C-14	5/23/89	20:05	19.50	48.00	0.717	2.35	1.56	<0.05	1.56	6.30
9	C-14	5/23/89	20:20	21.00	19.00	0.511	1.35	1.37	0.06	1.31	6.30
10	C-14	5/23/89	20:35	11.85	24.00	0.408	1.23	1.33	0.05	1.28	6.30
11	C-14	5/23/89	21:00	10.80	30.00	0.400	1.44	1.52	<0.05	1.52	6.30
12	C-14	5/23/89	21:15	11.40	44.00	0.440	1.50	1.52	<0.05	1.52	6.30
13	C-14	5/23/89	21:30	11.10	34.00	0.428	1.39	1.10	<0.05	1.10	6.10
14	C-14	5/23/89	22:00	12.60	29.60	0.493	1.63	1.16	0.05	1.11	6.10

Station Location	Station Description
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Storm Sewer

ANALYTICAL DATA FOR STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

MAY 23-24, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	NH3 MG/L	TKN MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
15	C-14	5/23/89	22:15	10.20	21.00	0.499	1.59	1.24	0.05	1.19	6.10
16	C-14	5/23/89	22:45	8.70	41.00	0.437	1.32	1.23	0.05	1.18	6.10
17	C-14	5/23/89	23:30	8.70	25.00	0.369	1.03	0.78	<0.05	0.78	6.10
18	C-14	5/23/89	24:00	7.80	19.50	0.390	1.18	0.96	0.05	0.96	6.10
19	C-14	5/24/89	01:15	6.90	10.50	0.302	0.863	0.75	<0.05	0.75	6.10
20	C-14	5/24/89	02:45	7.40	31.00	0.189	0.574	0.64	<0.05	0.64	6.10

Station Location	Station Description
C-13	E. Riser Storm Sewer
C-14	Overpeck Creek Storm Sew

General Testing Corporation

SECTION 22

ANALYTICAL DATA

TIDAL MARSH STUDY

JULY/AUGUST 1989 EVENT

JULY 23, 24, 1989, AND AUGUST 6, 7, 1989

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11269	A	M-1	7/23/89	0615	7.10	24.0			2.90								
11269	B	M-1	7/23/89	0632	7.15	24.0			2.00								
11269	C	M-1	7/23/89	0700	7.20	25.0			2.70								
11269	D	M-1	7/23/89	0730	7.20	25.0			3.40								
11269	E	M-1	7/23/89	0755	7.20	25.0			3.00								
11269	F	M-1	7/23/89	0835	7.20	25.5			3.40								
11269	G	M-1	7/23/89	0900	7.25	25.5	4.30	50.00	2.90	0.629	<0.050	2.94	1.54	0.632	0.254	7.07	37.0
11269	H	M-1	7/23/89	0930	7.30	26.0			4.10								
11269	I	M-1	7/23/89	0955	7.25	27.0			4.30								
11269	J	M-1	7/23/89	1025	7.30	27.0			4.50								
11269	K	M-1	7/23/89	1100	7.30	27.5			4.40								
11269	L	M-1	7/23/89	1130	7.35	27.0			4.70								
11269	M	M-1	7/23/89	1155	7.40	27.0			6.00								
11269	N	M-1	7/23/89	1250	7.20	28.5	3.78	32.40	5.50	0.616	0.149	2.84	1.60	0.817	0.489	7.79	3.10
11269	O	M-1	7/23/89	1305	7.20	28.5	3.05	27.60	5.20	0.697	0.241	2.79	1.22	0.687	0.368	7.79	27.0
11269	P	M-1	7/23/89	1335	7.20	28.0	2.75	29.60	4.90	0.699	1.14	1.40	1.07	0.416	0.100	7.79	23.3
11269	Q	M-1	7/23/89	1420	7.10	28.0			4.80								
11269	R	M-1	7/23/89	1435	7.25	28.5			5.70								
11269	S	M-1	7/23/89	1500	7.55	29.0	3.52	39.60	7.90	0.615	0.865	1.11	1.00	0.717	0.414	7.97	45.4
11269	T	M-1	7/23/89	1530	7.45	29.0	3.18	36.40	8.50	0.626	1.03	1.30	0.966	0.730	0.429	8.15	48.0
11269	U	M-1	7/23/89	1600	7.50	29.0	3.45	33.60	7.20	0.642	0.226	2.36	1.05	0.682	0.382	8.33	39.2
11269	V	M-1	7/23/89	1645	7.50	29.0			5.50								
11269	W	M-1	7/23/89	1705	7.40	29.0			7.70								37.1
11269	X	M-1	7/23/89	1730	7.45	29.0			5.50								33.8
11269	Y	M-1	7/23/89	1810	7.50	29.0			7.60								46.8
11269	Z	M-1	7/23/89	1835	7.70	29.0	4.12	62.80	7.20								58.9
11269	AA	M-1	7/23/89	1900	7.20	29.0			5.90								

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11269	AB	M-1	7/23/89	1930	7.60	28.5			5.70								
11269	AC	M-1	7/23/89	2015	7.45	28.0			6.40								
11269	AD	M-1	7/23/89	2045	7.35	28.0			4.50								
11269	AE	M-1	7/23/89	2105	7.30	27.5	4.30	52.80	4.60	0.513	0.243	2.56	0.986	0.682	0.426	7.79	39.8
11269	AF	M-1	7/23/89	2145	7.15	27.0			3.10								
11269	AG	M-1	7/23/89	2220	7.25	26.5			3.20								
11269	AH	M-1	7/23/89	2300	7.40	27.0			4.70								
11269	AI	M-1	7/23/89	2330	7.54	28.0			5.10								34.6
11269	AA & AB	M-1	7/23/89	C			4.20	44.80		0.667	0.274	3.11	0.995	0.872	0.631	8.51	34.1
11269	AC & AD	M-1	7/23/89	C			3.80	45.80		0.656	0.285	3.63	0.88	0.418	0.197	7.61	36.0
11269	AF & AG	M-1	7/23/89	C			4.40	49.20		0.634	0.128	5.03	1.08	0.847	0.606	7.79	37.7
11269	AH & AI	M-1	7/23/89	C			4.38	54.00		0.655	0.126	3.95	2.02	0.772	0.573	7.61	37.7
11269	A & B	M-1	7/23/89	C			2.88	22.60		0.647	0.245	2.48	1.59	1.90	1.59	7.43	8.77
11269	C & D	M-1	7/23/89	C			2.80	20.80		0.570	0.138	2.79	1.59	2.47	2.07	7.25	13.0
11269	E & F	M-1	7/23/89	C			3.72	26.40		0.495	0.123	2.66	1.56	1.95	1.50	7.07	**
11269	H & I	M-1	7/23/89	C			4.60	44.40		0.511	0.007	2.79	1.60	2.08	1.59	7.25	23.3
11269	J & K	M-1	7/23/89	C			4.05	56.00		0.601	0.022	2.83	1.91	1.70	1.25	7.25	20.9
11269	L & M	M-1	7/23/89	C			3.50	38.00		0.540	0.029	2.20	1.83	4.26	3.96	7.25	26.4
11269	Q & R	M-1	7/23/89	C			2.72	34.80		0.708	2.01	1.12	1.06	6.05	5.77	8.13	21.3
11269	V & W	M-1	7/23/89	C			3.65	36.80		0.680	0.299	2.43	1.09	0.666	0.384	8.33	20.1
11269	X & Y	M-1	7/23/89	C			3.40	39.60		0.662	0.297	2.75	1.10	2.58	2.34	8.15	**
11269	AJ	M-1	7/24/89	0005	7.60	27.0			4.70								28.5
11269	AK	M-1	7/24/89	0035	7.50	27.5			5.30								
11269	AL	M-1	7/24/89	0100	7.45	27.5	3.62	56.40	4.30	0.483	0.335	3.07	1.33	0.697	0.449	8.33	17.0
11269	AM	M-1	7/24/89	0130	7.48	28.0	4.15	60.80	4.40	0.682	0.140	3.40	1.39	0.541	0.279	8.51	35.8
11269	AN	M-1	7/24/89	0155	7.46	27.5	2.75	66.00	3.90	0.690	0.118	3.15	1.29	0.646	0.374	8.51	21.3
11269	AO	M-1	7/24/89	0230	7.22	27.5	3.20	48.60	2.30	0.738	0.272	1.92	0.964	0.571	0.284	8.15	17.2

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11269	AP	M-1	7/24/89	0300	7.29	27.5	2.90	24.40	2.60	0.734	0.229	2.42	1.02	0.536	0.248	8.51	13.1
11269	AQ	M-1	7/24/89	0330	7.26	27.0	2.00	36.80	2.70	0.721	0.228	2.08	0.937	0.692	0.409	8.51	**
11269	AR	M-1	7/24/89	0355	7.54	26.5	2.28	26.80	3.75	0.711	0.211	2.76	1.10	0.375	0.126	8.33	**
11269	AS	M-1	7/24/89	0430	7.30	26.5	4.02	30.40	2.50	0.703	0.199	3.10	1.19	0.717	0.419	8.33	17.8
11269	AT	M-1	7/24/89	0530	7.34	26.0	2.90	26.40	2.70	0.695	0.186	3.02	1.12	0.722	0.429	8.33	23.3
11269	AU	M-1	7/24/89	0555	7.34	26.0			2.10								
11269	AV	M-1	7/24/89	0635	7.30	26.5			2.10								
11269	AW	M-1	7/24/89	0700	7.30	26.5			2.40								
11269	AX	M-1	7/24/89	0730	7.33	26.5			3.10								
11269	AY	M-1	7/24/89	0800	7.40	26.5		31.60	2.30								22.9
11269	AZ	M-1	7/24/89	0830						0.629	0.196	2.41	1.31	0.692	0.422	NS	**
11269	AJ & AK	M-1	7/24/89	C			4.95	72.40		0.663	0.146	4.03	1.73	0.438	0.216	7.79	23.4
11269	AW & AX	M-1	7/24/89	C			4.15	25.60		0.646	0.228	3.11	1.13	0.812	0.516	7.97	11.2
11269	AU & AV	M-1	7/24/89	C			3.75	24.00		0.652	0.279	2.91	1.04	0.732	0.458	7.97	20.5
11270	A	M-2	7/23/89	0615	7.05	24.0	3.35	159.00	1.30	0.120	0.030	3.87	1.21	2.29	1.42	NS	**
11270	B	M-2	7/23/89	0700	7.25	23.0			3.20								
11270	C	M-2	7/23/89	0730	7.30	23.0			2.60								
11270	D	M-2	7/23/89	0800	7.30	24.0	1.75	114.50	3.60	0.060	1.08	2.99	1.36	1.68	0.792	7.61	16.9
11270	E	M-2	7/23/89	0835	7.20	25.0			3.50								
11270	F	M-2	7/23/89	0900	7.25	25.0			2.50								
11270	G	M-2	7/23/89	0930	7.15	26.0			2.50								
11270	H	M-2	7/23/89	1000	7.20	26.0			2.20								
11270	I	M-2	7/23/89	1030	7.10	26.0			1.50								
11270	J	M-2	7/23/89	1100	7.10	27.0			1.70								
11270	K	M-2	7/23/89	1130	7.10	27.0	3.00	42.60	2.00	0.898	0.202	2.10	0.986	0.468	0.169	7.07	51.6
11270	L	M-2	7/23/89	1200	7.00	28.0	2.60	55.20	1.70	0.875	0.265	2.54	0.829	0.596	0.364	7.79	10.4
11270	M	M-2	7/23/89	1230	7.05	28.0	2.45	86.40	2.00	0.789	0.301	1.89	0.751	0.220	<0.050	8.15	**

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11270	N	M-2	7/23/89	1300	7.10	27.0	2.52	33.20	1.80	0.740	0.260	2.30	0.728	0.601	0.356	8.69	14.1
11270	O	M-2	7/23/89	1330	7.10	28.0	2.40	61.20	1.70	0.683	0.337	4.36	0.750	0.546	0.292	8.51	8.99
11270	P	M-2	7/23/89	1400	7.10	27.0	2.28	54.40	1.20	0.653	0.377	2.29	0.970	0.427	0.184	9.06	12.8
11270	Q	M-2	7/23/89	1430	7.15	27.0	2.22	32.00	2.00	0.646	0.424	2.17	0.711	0.391	0.144	9.24	7.10
11270	R	M-2	7/23/89	1500	7.15	27.0	2.62	63.20	1.90	0.642	0.349	1.85	0.689	0.457	0.194	9.06	2.96
11270	S	M-2	7/23/89	1530	7.20	28.0	2.85	52.40	3.10	0.658	0.962	1.83	0.601	0.674	0.398	7.61	7.13
11270	T	M-2	7/23/89	1600	7.25	29.0	3.52	62.80	3.60	0.645	0.315	2.39	0.692	0.598	0.316	8.61	2.94
11270	U	M-2	7/23/89	1630	7.25		1.38	64.40	4.10								
11270	V	M-2	7/23/89	1700	7.20	29.0			2.70								10.8
11270	W	M-2	7/23/89	1730	7.20	29.0			3.20								
11270	X	M-2	7/23/89	1800	7.20	28.0			1.80								
11270	Y	M-2	7/23/89	1830	7.20	28.0			1.30								
11270	Z	M-2	7/23/89	1900	7.20	28.0			1.70								
11270	AA	M-2	7/23/89	1930	7.20	28.0			1.20								
11270	AB	M-2	7/23/89	2000	7.20	28.0	2.25	250.00	1.30	0.170	<0.050	4.41	1.37	1.27	0.623	8.15	17.8
11270	AC	M-2	7/23/89	2030	7.25	26.0			2.30								
11270	AD	M-2	7/23/89	2100	7.23	27.0			3.10								
11270	AE	M-2	7/23/89	2130	7.17	28.0			3.90								
11270	AF	M-2	7/23/89	2200	7.20	27.0			2.50								
11270	AG	M-2	7/23/89	2230	7.20	27.0			2.70								
11270	AH	M-2	7/23/89	2300	7.24	27.0			3.40								
11270	AI	M-2	7/23/89	2330	7.15	27.0			2.40								
11270	B & C	M-2	7/23/89	C			2.92	370.00		0.075	<0.050	4.36	1.13	1.53	0.962	7.79	18.4
11270	E & F	M-2	7/23/89	C			1.98	92.00		0.194	<0.050	2.72	1.46	1.66	0.640	7.79	**
11270	G & H	M-2	7/23/89	C			2.05	68.80		0.397	0.052	2.85	1.42	0.892	0.265	7.61	10.0
11270	I & J	M-2	7/23/89	C			1.80	45.20		0.713	0.142	2.60	1.18	0.370	0.024	7.07	9.50
11270	V & W	M-2	7/23/89	C			1.75	40.80		0.319	0.241	1.48	0.661	0.692	0.163	8.33	**

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11270	X & Y	M-2	7/23/89	C			1.52	41.20		0.115	0.013	1.85	1.16	0.962	0.046	8.57	9.70
11270	Z & AA	M-2	7/23/89	C			2.80	195.00		0.090	<0.050	3.68	1.34	1.70	0.500	8.15	25.3
11270	AC & AD	M-2	7/23/89	C			2.50	86.00		0.513	0.002	2.33	1.05	0.825	0.341	8.15	26.8
11270	AE & AF	M-2	7/23/89	C			4.85	62.80		0.672	0.133	2.68	0.944	0.426	0.112	8.15	34.8
11270	AG & AH	M-2	7/23/89	C			2.28	60.00		0.740	0.182	2.39	0.928	0.452	0.138	7.33	14.1
11270	AJ	M-2	7/24/89	0000	7.23	27.0			2.10								
11270	AK	M-2	7/24/89	0030	7.28	27.0	1.50	78.00	1.60	0.814	0.216	2.79	0.792	0.990	0.646	8.87	14.4
11270	AL	M-2	7/24/89	0100	7.27	27.0	1.52	43.20	2.10	0.756	0.294	2.37	0.767	0.468	0.197	9.60	16.0
11270	AM	M-2	7/24/89	0130	7.25	27.0	1.14	59.00	2.00	0.700	0.320	1.92	0.721	0.578	0.310	9.88	7.32
11270	AN	M-2	7/24/89	0200	7.22	27.0	1.25	34.00	2.35	0.668	0.362	2.06	0.699	0.586	0.317	9.96	10.5
11270	AO	M-2	7/24/89	0230	7.27	26.5	0.80	28.80	NS	0.635	0.405	2.15	0.129	0.306	0.040	10.32	9.28
11270	AP	M-2	7/24/89	0300	7.28	26.5	1.55	63.60	2.20	0.628	0.342	2.08	0.618	0.631	0.360	8.15	12.4
11270	AQ	M-2	7/24/89	0330	7.21	26.5	0.90	23.20	1.95	0.635	0.343	2.38	0.713	0.396	0.117	9.96	8.20
11270	AR	M-2	7/24/89	0400	7.40	26.0	1.92	43.40	2.10	0.650	0.318	2.12	0.739	0.547	0.248	9.96	46.1
11270	AS	M-2	7/24/89	0430	7.25	25.0	1.43	41.60	2.70	0.604	0.267	1.81	0.774	0.662	0.311	8.15	11.1
11270	AT	M-2	7/24/89	0500	7.29	24.0	2.33	42.00	2.50	0.514	0.212	1.68	0.742	0.872	0.449	16.10	5.64
11270	AU	M-2	7/24/89	0530	7.18	23.0	2.33	35.60	2.40	0.387	0.184	4.48	0.794	0.897	0.355	8.15	**
11270	AV	M-2	7/24/89	0600	7.24	23.0			2.30								
11270	AW	M-2	7/24/89	0630	7.36	23.0			2.10								
11270	AX	M-2	7/24/89	0700	7.31	22.5			2.70								
11270	AY	M-2	7/24/89	0730	7.32	23.0			1.50								
11270	AZ	M-2	7/24/89	0800	7.36	23.0			3.40								
11270	BA	M-2	7/24/89	0830	7.37	23.0			3.60								
11270	BB	M-2	7/24/89	0900	7.38	23.0	2.68	116.00	3.70	0.215	1.805	1.97	1.27	0.700	<0.050	8.15	26.4
11270	AI & AJ	M-2	7/24/89	C			1.72	53.60		0.809	0.600	3.13	0.898	0.437	0.145	8.33	11.6
11270	AV & AW	M-2	7/24/89	C			3.65	83.00		0.165	0.010	2.19	1.05	0.811	<0.050	8.33	8.10
11270	AX & AY	M-2	7/24/89	C			2.92	427.00		0.111	<0.050	4.48	1.36	2.32	1.34	8.15	28.8

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11270	AZ & BA	M-2	7/24/89	C			2.62	104.00		0.078	<0.050	3.10	1.38	2.32	0.920	7.79	9.06
11379	A	M-2	8/6/89	0738	7.10	23.0	1.60	41.40	2.80	<0.050	0.036	2.17	1.62	1.64	<0.050	10.14	4.56
11379	B	M-2	8/6/89	0759	6.90	23.3	2.70	50.00	2.80	<0.050	0.034	3.32	1.89	2.05	0.230	9.96	7.42
11379	C	M-2	8/6/89	0831	7.00	24.0	2.10	47.60	1.60	0.119	0.083	2.73	1.64	1.64	0.110	10.32	21.4
11379	D	M-2	8/6/89	0903	7.30	24.0	2.15	517.00	1.80	0.072	0.078	2.83	1.82	3.58	2.12	9.96	13.8
11379	E	M-2	8/6/89	0929	7.10	26.5	5.10	16.40	3.10	0.623	0.323	<1.00	0.745	0.807	0.290	10.68	9.65
11379	F	M-2	8/6/89	1002	7.20	27.5	3.15	14.00	3.10	0.806	0.404	2.06	0.982	0.612	0.194	10.32	22.2
11379	G	M-2	8/6/89	1031	6.70	28.0	2.65	14.00	3.10	0.821	0.429	2.20	1.09	0.612	0.211	10.32	35.4
11379	H	M-2	8/6/89	1100	6.50	28.0	3.80	50.40	3.30	0.864	0.416	1.84	0.951	0.56	0.210	10.86	8.23
11379	I	M-2	8/6/89	1129	6.30	29.0	2.15	55.00	3.70	0.899	0.391	1.16	0.855	0.509	0.180	11.58	6.1
11379	J	M-2	8/6/89	1200	6.80	29.0	2.90	54.40	2.90	0.888	0.372	2.02	0.759	0.514	0.183	11.94	11.3
11379	K	M-2	8/6/89	1230	7.00	29.0	2.70	42.00	3.00	0.847	0.363	2.21	0.597	0.473	0.157	12.12	15.2
11379	L	M-2	8/6/89	1300	7.10	28.5	1.75	36.00	3.70	0.852	0.348	1.74	0.782	0.447	0.136	12.67	8.60
11379	M	M-2	8/6/89	1330	7.10	29.0	4.05	36.00	3.90	0.841	0.339	1.52	0.875	0.442	0.150	12.67	14.4
11379	N	M-2	8/6/89	1400	7.20	29.0	2.65	14.40	4.30	0.886	0.334	2.37	0.617	0.395	0.103	12.67	55.5
11379	O	M-2	8/6/89	1430	6.90	29.5	4.25	42.00	4.10	0.813	0.317	2.10	0.731	0.452	0.173	12.48	4.22
11379	P	M-2	8/6/89	1500	7.00	29.5	3.70	39.60	4.70	0.856	0.324	1.78	0.951	0.442	0.124	12.12	8.23
11379	Q	M-2	8/6/89	1529	7.20	30.0	3.10	56.00	5.70	0.795	0.315	1.63	0.593	0.509	0.168	11.22	22.7
11379	R	M-2	8/6/89	1600	7.30	29.5	3.60	24.40	6.20	0.769	0.281	2.13	0.678	0.617	0.222	11.22	16.4
11379	S	M-2	8/6/89	1630	7.25	29.0	3.40	48.40	5.85	0.736	0.200	1.44	0.368	0.686	0.194	11.22	32.5
11379	T	M-2	8/6/89	1701	7.10	29.0	3.05	22.00	5.20	0.638	0.155	2.25	0.617	0.684	0.096	12.12	21.3
11379	U	M-2	8/6/89	1732	7.05	29.0	2.90	65.60	4.05	0.098	0.393	1.48	0.345	0.957	0.173	12.3	37.1
11379	V	M-2	8/6/89	1801	6.90	29.0	2.70	57.60	1.90	0.058	0.127	2.11	0.942	1.06	0.040	11.4	8.22
11379	W	M-2	8/6/89	1831	7.00	28.5	2.00	44.00	1.40	0.053	0.124	1.38	1.55	1.11	0.100	11.22	4.65
11379	X	M-2	8/6/89	1900	6.95	27.0	2.25	64.80	1.20	0.045	0.047	1.70	1.67	1.26	0.170	11.22	12.7
11379	Y	M-2	8/6/89	1930	7.00	27.0	2.30	48.40	1.70	0.092	0.149	2.09	0.976	1.16	0.140	11.94	9.21
11379	Z	M-2	8/6/89	2000	7.10	27.0	3.00	74.00	3.90	0.196	0.383	1.59	0.746	0.908	0.131	11.76	5.73

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11379	AA	M-2	8/6/89	2030	7.25	27.0	3.65	73.20	3.90	0.244	0.527	2.20	0.507	0.782	0.172	12.3	13.5
11379	AB	M-2	8/6/89	2100	7.30	27.0	3.20	76.40	6.70	0.268	0.621	1.30	0.465	0.798	0.276	11.58	10.6
11379	AC	M-2	8/6/89	2130	7.45	27.5	3.70	80.00	5.70	0.320	0.710	2.26	0.960	0.894	0.480	12.48	9.20
11379	AD	M-2	8/6/89	2200	7.40	27.0	3.40	79.60	5.20	0.384	0.816	2.24	0.565	0.879	0.491	11.58	2.35
11379	AE	M-2	8/6/89	2230	7.30	27.0	2.75	77.80	3.70	0.416	0.884	1.58	0.690	0.798	0.425	12.85	14.9
11379	AF	M-2	8/6/89	2300	7.20	27.0	3.00	61.20	2.50	0.393	0.907	1.39	0.566	0.818	0.480	12.85	22.1
11379	AG	M-2	8/6/89	2330	7.15	27.0	2.30	66.80	2.40	0.375	0.955	1.30	0.568	0.763	0.429	13.39	25.0
11379	AH	M-2	8/7/89	0000	7.00	28.5	2.20	66.80	1.40	0.353	0.947	7.11	0.542	0.571	0.262	14.47	11.4
11379	AI	M-2	8/7/89	0036	7.00	27.5	2.15	45.20	2.90	0.350	0.960	2.30	0.983	0.49	0.172	12.12	4.56
11379	AJ	M-2	8/7/89	0108	7.05	27.5	2.20	45.60	3.30	0.345	0.995	1.46	0.529	0.556	0.249	12.67	8.22
11379	AK	M-2	8/7/89	0130	7.05	28.0	1.70	42.00	3.20	0.338	0.972	2.16	0.488	0.454	0.163	12.85	4.32
11379	AM	M-2	8/7/89	0200	7.10	25.0	3.15	124.00	2.20	0.342	0.948	1.78	0.534	0.556	0.259	13.03	3.67
11379	AN	M-2	8/7/89	0230	7.05	26.5	2.15	38.40	2.20	0.330	0.930	1.44	1.19	0.586	0.242	14.65	3.00
11379	AO	M-2	8/7/89	0300	7.00	27.0	2.05	51.20	2.10	0.325	0.895	2.58	1.57	0.985	0.624	13.39	11.5
11379	AP	M-2	8/7/89	0330	7.00	26.0	2.60	80.80	1.80	0.304	0.756	<1.0	0.914	0.856	0.406	13.39	4.18
11379	AQ	M-2	8/7/89	0400	6.75	25.0	2.55	49.60	1.70	0.248	0.643	1.08	0.531	0.856	0.309	12.48	16.7
11379	AR	M-2	8/7/89	0430	6.85	24.0	2.80	80.80	1.70	0.217	0.586	1.02	0.535	0.957	0.323	12.48	33.9
11379	AS	M-2	8/7/89	0500	6.90	24.0	2.50	41.60	1.20	0.145	0.356	3.00	0.652	1.11	0.230	12.3	8.10
11379	AT	M-2	8/7/89	0530	6.90	23.5	2.85	58.00	1.60	0.051	0.070	2.09	1.56	1.46	1.332	12.3	9.92
11379	AU	M-2	8/7/89	0600	7.15	23.0	2.25	82.40	1.70	0.042	0.027	2.49	1.44	1.66	1.499	11.76	15.2
11271	A	M-3	7/23/89	1220	7.25	29.0	2.40	28.80	3.40	0.711	0.162	1.76	1.13	0.957	0.527	8.15	**
11271	B	M-3	7/23/89	1245	7.25	29.0			3.70								
11271	C	M-3	7/23/89	1315	7.30	29.0			4.10								
11271	D	M-3	7/23/89	1348	7.30	29.0			4.00								
11271	E	M-3	7/23/89	1415	7.15	30.0			5.60								
11271	F	M-3	7/23/89	1445	7.20	30.0			4.80								
11271	G	M-3	7/23/89	1515	7.05	29.0			3.10								

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11271	H	M-3	7/23/89	1545	7.00	28.0			2.40								
11271	I	M-3	7/23/89	1618	7.10	28.0			2.80								
11271	B & C	M-3	7/23/89	C			2.70	33.60		0.690	0.269	2.95	0.992	0.376	<0.050	8.51	**
11271	D & E	M-3	7/23/89	C			2.80	20.00		0.692	0.275	3.21	0.793	0.421	0.104	7.97	32.8
11271	F & G	M-3	7/23/89	C			3.02	21.60		0.665	0.355	1.79	0.950	0.616	0.290	8.87	21.6
11271	H & I	M-3	7/23/89	C			1.75	15.20		0.437	0.274	1.45	0.603	0.497	0.103	8.33	24.5
11271	J	M-3	7/24/89	0018	7.28	25.0			2.00								
11271	K	M-3	7/24/89	0045	7.24	25.0			1.90								
11271	L	M-3	7/24/89	0115	7.22	26.0			1.70								
11271	M	M-3	7/24/89	0145	7.22	26.0			1.70								
11271	N	M-3	7/24/89	0215	7.00	26.0			2.10								
11271	O	M-3	7/24/89	0245	7.03	26.5			1.90								
11271	P	M-3	7/24/89	0315	7.05	26.5			1.60								
11271	Q	M-3	7/24/89	0345	7.05	25.0			1.30								
11271	R	M-3	7/24/89	0415	7.10	25.0	2.53	20.40	1.70	0.467	0.190	1.61	0.846	0.897	0.570	8.15	8.34
11271	J & K	M-3	7/24/89	C			2.45	16.80		0.588	0.177	3.44	1.01	0.541	0.047	8.51	20.7
11271	L & M	M-3	7/24/89	C			1.45	34.80		0.693	0.287	2.68	0.908	0.411	0.066	NS	18.7
11271	N & O	M-3	7/24/89	C			1.38	34.00		0.685	0.345	2.91	0.843	0.376	0.061	NS	7.40
11271	P & Q	M-3	7/24/89	C			1.45	20.40		0.607	0.321	2.37	0.776	0.601	0.271	NS	14.4
11265	A	S-1	7/23/89	0620	7.10	23.0	1.32	90.80	1.60	0.691	0.168	1.28	0.936	0.737	0.417	8.33	5.88
11265	B	S-1	7/23/89	0810	7.20	26.5	1.10	44.80	1.40	0.706	0.199	2.39	0.537	0.717	0.387	8.15	2.52
11265	C	S-1	7/23/89	1010	7.35	28.0	1.25	39.20	1.50	0.762	0.358	1.73	0.494	0.601	0.295	8.87	3.34
11265	D	S-1	7/23/89	1220	7.10	28.0	0.90	48.00	2.10	0.465	0.437	1.38	0.929	0.857	0.600	12.48	1.90
11265	E	S-1	7/23/89	1400	7.20	28.0	1.18	28.40	1.90	0.362	0.522	1.44	0.417	0.452	0.204	10.64	2.18
11265	F	S-1	7/23/89	1605	7.20	29.0	1.48	30.80	3.20	0.560	0.450	1.24	0.405	0.520	0.225	9.24	4.27
11265	G	S-1	7/23/89	1805	7.20	30.0	2.38	102.00	5.00	0.669	0.244	1.66	0.591	0.970	0.707	8.33	4.04
11265	H	S-1	7/23/89	2010	7.40	30.0	3.00	91.20	5.50	0.677	0.155	3.25	1.49	0.722	0.423	8.33	4.75

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

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JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11265	I	S-1	7/23/89	2200	7.20	30.0	1.60	44.80	2.00	0.722	0.338	1.87	0.920	0.646	0.419	13.03	3.42
11265	J	S-1	7/24/89	0020	7.23	26.0	1.18	53.60	2.00	0.419	0.486	2.02	0.655	0.516	0.291	13.57	1.86
11265	K	S-1	7/24/89	0210	7.25	27.0	1.40	17.60	2.30	0.385	0.510	1.02	0.671	0.396	0.126	12.85	2.26
11265	L	S-1	7/24/89	0410	7.30	27.0	1.15	25.20	2.40	0.546	0.484	1.06	0.751	0.511	0.207	11.22	1.39
11265	M	S-1	7/24/89	0600	7.34	27.0	1.30	77.60	2.20	0.677	0.220	1.48	0.654	2.91	2.599	9.60	10.9
11375	A	S-1	8/6/89	0700	7.30	29.0	2.80	72.40	3.30	0.376	0.694	0.425	1.11	0.586	0.263	11.04	22.5
11375	B	S-1	8/6/89	0925	7.30	30.0	2.03	47.60	3.30	0.386	1.12	0.692	0.740	0.437	0.140	NS	**
11375	C	S-1	8/6/89	1120	7.10	30.0	1.45	56.40	2.90	0.289	0.801	1.70	0.862	0.37	0.117	16.64	10.68
11375	D	S-1	8/6/89	1310	7.30	30.0	2.15	35.20	3.60	0.242	0.738	1.66	0.890	0.318	0.122	15.91	6.03
11375	E	S-1	8/6/89	1540	7.10	31.0	2.50	51.20	4.00	0.314	0.876	1.41	0.786	0.395	0.127	13.57	14.8
11375	F	S-1	8/6/89	1722	7.30	31.0	3.12	110.00	4.90	0.350	0.820	1.66	0.568	0.524	0.246	12.12	38.8
11375	G	S-1	8/6/89	1930	7.70	31.0	4.25	109.00	9.80	0.356	0.734	2.26	0.760	0.591	0.281	11.1	57.3
11375	H	S-1	8/6/89	2115	7.15	30.0	1.95	51.60	4.00	0.364	0.926	1.31	0.741	0.452	0.133	12.3	25.9
11375	I	S-1	8/6/89	2310	7.20	31.0	1.90	51.40	1.90	0.290	0.880	1.50	0.904	0.375	0.102	14.29	13.75
11375	J	S-1	8/7/89	0100	6.95	30.0	1.35	32.80	3.50	0.253	0.807	1.37	0.844	0.318	0.066	15.73	**
11375	K	S-1	8/7/89	0315	7.10	30.0	1.80	32.40	2.80	0.304	0.896	1.48	0.683	0.385	0.085	14.83	8.17
11375	L	S-1	8/7/89	0530	7.10	30.0	2.20	84.00	3.30	0.351	0.859	1.53	1.10	0.545	0.195	12.48	12.0
11266	A	S-2	7/23/89	0645	7.20	26.0	1.85	124.00	2.00	0.677	0.098	2.16	1.53	0.867	0.557	8.15	7.52
11266	B	S-2	7/23/89	0825	7.30	26.0	1.62	42.80	1.40	0.679	0.193	2.87	1.79	0.692	0.360	7.97	1.39
11266	C	S-2	7/23/89	1030	7.10	28.0	1.45	69.20	1.20	0.788	0.322	1.42	0.744	0.727	0.430	8.51	8.90
11266	D	S-2	7/23/89	1235	7.10	28.0	1.28	25.20	1.70	0.547	0.473	1.00	0.757	0.481	0.227	11.58	1.44
11266	E	S-2	7/23/89	1415	7.10	28.0	1.10	22.40	2.00	0.442	0.469	1.16	0.675	0.464	0.233	12.85	1.79
11266	F	S-2	7/23/89	1620	7.20	29.0	0.65	58.80	3.00	0.615	0.335	1.51	0.760	0.621	0.340	10.68	1.52
11266	G	S-2	7/23/89	1820	7.45	30.0	2.95	131.00	5.90	0.687	0.180	1.94	1.01	0.777	0.489	4.30	3.30
11266	H	S-2	7/23/89	2020	7.40	30.0	1.78	38.00	3.00	0.809	0.251	3.40	1.29	0.702	0.396	8.87	4.20
11266	I	S-2	7/23/89	2215	7.25	30.0	1.95	57.60	1.90	0.762	0.308	1.94	0.943	0.692	0.388	8.87	8.42
11266	J	S-2	7/24/89	0040	7.28	27.0	1.60	39.20	1.90	0.541	0.489	1.44	0.750	0.546	0.282	11.22	2.00

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11266	K	S-2	7/24/89	0230	7.28	26.0	1.50	22.00	2.10	0.408	0.526	1.36	0.663	0.436	0.204	9.78	2.11
11266	L	S-2	7/24/89	0430	7.27	27.0	1.40	36.80	1.60	0.592	0.418	1.34	0.761	0.636	0.343	11.58	1.39
11266	M	S-2	7/24/89	0615	7.38	27.0	1.95	112.00	1.60	0.683	0.264	1.93	0.965	0.747	0.433	12.12	2.90
11376	A	S-2	8/6/89	0710	7.40	29.0	2.35	43.20	2.70	0.362	0.768	2.98	1.02	0.638	0.274	13.39	6.39
11376	B	S-2	8/6/89	0915	7.20	31.0	2.80	54.00	3.10	0.409	1.03	2.40	1.20	0.478	0.152	11.4	2.83
11376	C	S-2	8/6/89	1126	7.00	30.0	1.80	26.40	2.60	0.322	0.938	<1.0	1.02	0.411	0.134	11.58	1.73
11376	D	S-2	8/6/89	1321	7.20	30.0	2.80	46.40	3.60	0.276	0.884	1.32	1.06	0.318	0.081	14.83	4.02
11376	E	S-2	8/6/89	1555	7.20	30.0	2.25	38.40	3.30	0.327	0.973	2.23	1.06	0.437	0.155	14.83	2.58
11376	F	S-2	8/6/89	1730	7.45	30.0	3.08	60.00	4.45	0.353	0.727	1.76	0.629	0.501	0.204	13.03	1.95
11376	G	S-2	8/6/89	1950	8.00	31.0	4.35	23.20	10.30	0.359	0.711	2.36	1.15	0.555	0.259	12.03	39.1
11376	H	S-2	8/6/89	2125	7.40	30.0	2.70	32.40	4.10	0.384	0.906	1.84	1.08	0.524	0.198	11.22	4.40
11376	I	S-2	8/6/89	2320	7.15	30.0	1.45	31.60	1.90	0.319	0.871	<1.0	0.316	0.457	0.165	11.76	1.68
11376	J	S-2	8/7/89	0110	7.05	30.0	1.15	24.80	3.50	0.281	0.859	<1.0	1.23	0.344	0.073	13.76	2.04
11376	K	S-2	8/7/89	0325	7.10	30.0	1.40	58.20	2.40	0.312	0.858	2.2	1.19	0.406	0.086	13.57	4.20
11376	L	S-2	8/7/89	0540	7.10	30.0	2.15	135.00	3.20	0.353	0.797	1.36	1.13	0.807	0.424	12.48	**
11267	A	S-3	7/23/89	0700	7.15	26.0	2.70	210.00	1.50	0.652	0.015	3.35	1.87	0.997	0.675	8.15	4.60
11267	B	S-3	7/23/89	0840	7.30	26.0	2.70	59.60	1.50	0.577	0.073	3.65	2.12	0.767	0.440	8.87	1.67
11267	C	S-3	7/23/89	1040	7.35	28.0	1.51	30.80	1.30	0.810	0.290	1.90	1.10	0.747	0.434	7.61	1.77
11267	D	S-3	7/23/89	1300	7.10	28.0	0.85	28.80	2.20	0.687	0.393	1.27	0.851	0.576	0.292	9.42	1.61
11267	E	S-3	7/23/89	1425	7.15	28.0	1.20	21.20	2.20	0.579	0.471	1.04	0.771	0.480	0.215	10.50	1.56
11267	F	S-3	7/23/89	1635	7.25	29.0	1.92	37.60	2.30	0.658	0.372	1.47	0.894	0.561	0.273	8.69	6.14
11267	G	S-3	7/23/89	1835	7.50	30.0	3.10	106.00	6.30	0.663	0.157	2.99	1.14	0.687	0.417	8.33	20.1
11267	H	S-3	7/23/89	2030	7.50	30.0	3.25	94.70	6.50	0.634	0.078	2.59	1.78	0.697	0.468	8.33	**
11267	I	S-3	7/23/89	2225	7.30	30.0	2.25	128.00	2.90	0.791	0.107	2.40	1.13	0.917	0.618	8.15	4.86
11267	J	S-3	7/24/89	0100	7.28	28.0	1.30	30.40	1.70	0.695	0.282	0.98	0.267	0.551	0.257	9.60	1.47
11267	K	S-3	7/24/89	0245	7.28	27.0	1.20	22.80	2.20	0.590	0.480	1.66	0.783	0.676	0.400	10.32	1.67
11267	L	S-3	7/24/89	0445	7.30	28.0	1.45	26.80	2.00	0.671	0.409	1.97	0.883	0.601	0.310	9.60	4.06

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11267	M	S-3	7/24/89	0630	7.37	28.0	1.82	49.20	2.00	0.680	0.301	1.86	1.12	0.672	0.360	9.06	3.09
11377	A	S-3	8/6/89	0720	7.40	29.0	3.65	98.80	2.10	0.343	0.619	2.36	1.85	0.643	0.303	10.68	7.89
11377	B	S-3	8/6/89	0935	7.30	30.0	4.50	109.00	3.50	0.423	0.877	2.14	1.63	0.622	0.282	8.15	13.4
11377	C	S-3	8/6/89	1133	6.90	30.0	2.15	61.20	3.80	0.375	0.925	1.23	1.53	0.457	0.149	11.58	10.7
11377	D	S-3	8/6/89	1329	6.90	30.0	2.60	45.20	2.70	0.332	0.878	1.35	1.32	0.401	0.120	12.85	12.0
11377	E	S-3	8/6/89	1545	7.30	30.0	2.90	49.20	5.50	0.350	1.08	1.35	1.17	0.447	0.152	12.12	9.69
11377	F	S-3	8/6/89	1740	7.70	30.0	2.88	97.70	6.65	0.361	0.719	3.24	0.069	1.19	<0.050	11.58	31.4
11377	G	S-3	8/6/89	2000	8.05	30.0	4.50	116.00	11.30	0.353	0.584	2.75	1.19	0.863	0.576	11.22	36.4
11377	H	S-3	8/6/89	2140	7.55	30.0	3.65	100.00	5.40	0.397	0.833	2.30	0.669	0.884	0.562	11.22	19.8
11377	I	S-3	8/6/89	2330	7.25	31.0	1.95	54.40	3.00	0.357	0.833	2.24	0.789	0.646	0.332	12.48	8.01
11377	J	S-3	8/7/89	0123	7.15	30.0	3.45	46.30	3.20	0.326	0.904	2.02	0.772	0.566	0.260	13.75	9.52
11377	K	S-3	8/7/89	0340	7.20	30.0	2.10	63.20	1.80	0.349	0.671	1.50	0.799	0.586	0.257	11.58	8.31
11377	L	S-3	8/7/89	0550	7.20	30.0	2.90	38.40	3.90	0.349	0.600	2.76	0.841	0.737	0.364	12.67	26.8
11268	J	S-4	7/23/89	0000	7.25	26.5	4.48	54.40	3.30	0.770	1.190	1.85	0.767	0.518	0.220	8.87	**
11268	A	S-4	7/23/89	0610	7.20	24.0	2.55	135.00	3.20	0.550	<0.050	8.86	2.78	0.792	0.390	7.97	**
11268	B	S-4	7/23/89	0805	7.40	25.5	3.80	130.00	3.00	0.418	<0.050	13.9	10.1	0.957	0.416	7.97	34.4
11268	C	S-4	7/23/89	1005	7.40	26.5	3.05	52.80	2.60	0.528	0.052	4.83	2.75	0.754	0.415	7.97	5.22
11268	D	S-4	7/23/89	1205	7.25	28.5	3.68	52.40	2.80	0.766	0.294	2.25	1.05	0.654	0.348	8.51	2.24
11268	E	S-4	7/23/89	1400	7.10	29.0	0.95	27.60	3.40	0.650	1.000	1.45	0.692	0.551	0.276	9.60	25.2
11268	F	S-4	7/23/89	1610	7.30	28.5	0.35	35.20	4.10	0.647	0.383	1.61	0.935	0.521	0.231	9.78	5.54
11268	G	S-4	7/23/89	1750	7.25	29.5	1.60	60.40	6.20	0.677	0.260	2.44	1.25	0.646	0.362	8.33	24.9
11268	H	S-4	7/23/89	2000	7.30	28.0		346.00	4.00	0.556	0.354	11.8	7.02	0.975	0.685	8.69	43
11268	I	S-4	7/23/89	2200	7.20	28.0	3.42	89.20	4.30	0.634	0.086	2.90	1.92	0.747	0.428	NS	38.9
11268	K	S-4	7/24/89	0200	7.30	26.5	3.30	30.40	2.40	0.659	0.421	1.50	0.840	0.511	0.257	8.87	8.30
11268	L	S-4	7/24/89	0405	7.41	26.0	6.52	30.00	1.60	0.681	0.389	2.35	0.929	0.581	0.270	8.69	**
11268	M	S-4	7/24/89	0600	7.26	26.0	2.82	54.00	1.80	0.654	0.257	2.31	1.27	0.672	0.387	8.33	8.90
11378	A	S-4	8/6/89	0700	7.20	26.0	4.90	553.00	3.50	0.277	<0.050	7.52	5.35	1.26	0.732	11.22	7.32

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11378	B	S-4	8/6/89	0900	6.50	29.5	3.25	80.80	4.50	0.314	0.492	1.98	1.48	0.98	0.630	11.4	11.2
11378	C	S-4	8/6/89	1100	5.90	31.0	5.00	85.60	4.70	0.403	0.837	2.41	0.677	0.934	0.581	11.58	14.8
11378	D	S-4	8/6/89	1300	7.20	32.0	2.40	59.60	5.30	0.355	0.905	<1.0	0.875	0.606	0.312	13.21	12.7
11378	E	S-4	8/6/89	1500	7.40	31.0	2.50	46.00	5.95	0.348	0.892	4.17	0.407	0.345	0.069	13.03	26.8
11378	F	S-4	8/6/89	1700	7.80	32.0	3.45	74.40	8.80	0.364	0.796	1.69	0.956	0.677	0.403	11.76	29.8
11378	G	S-4	8/6/89	1900	8.30	32.0	6.40	179.00	12.00	0.342	0.365	7.39	0.455	0.78	0.489	11.94	31.0
11378	H	S-4	8/6/89	2100	8.30	31.0	6.60	76.80	11.60	0.341	0.565	3.57	1.17	0.919	0.638	11.58	57.1
11378	I	S-4	8/6/89	2300	7.80	30.0	5.55	86.40	6.20	0.379	0.761	2.38	0.741	0.944	0.637	11.76	53.1
11378	J	S-4	8/7/89	0045	7.20	30.0	3.30	46.00	3.50	0.354	0.886	1.69	1.26	0.667	0.317	13.21	11.4
11378	K	S-4	8/7/89	0300	7.20	30.0	3.05	31.60	3.20	0.349	0.891	<1.0	0.958	0.55	0.224	13.39	10.7
11378	L	S-4	8/7/89	0600	7.05	26.5	3.90	75.20	3.50	0.329	0.583	3.12	1.66	0.95	0.565	11.94	8.57
11289	A	S-9	7/26/89	1100	7.10	28.0	6.45	40.00	5.70	0.750	2.930	2.39	0.942	0.931	0.034	2.92	41.6
11289	B	S-9	7/26/89	1345	7.10	30.0	4.72	46.00	4.20	1.23	0.250	4.19	1.92	0.626	0.219	4.54	8.87
11289	C	S-9	7/26/89	1530	7.40	32.0	4.78	42.80	4.20	1.09	0.350	3.41	1.58	0.626	0.244	5.08	45.3
11289	D	S-9	7/26/89	1700	7.10	32.0	5.00	31.60	4.90	1.16	0.320	3.17	1.60	0.524	0.217	5.63	55.7
11289	E	S-9	7/26/89	1900	6.90	31.0	4.42	47.00	4.20	1.20	0.720	3.16	1.97	0.684	0.225	4.36	**
11289	F	S-9	7/26/89	2110	6.90	30.0	5.02	36.80	3.60	0.932	1.228	2.28	1.74	0.805	0.076	3.28	49.4
11289	G	S-9	7/26/89	2325	6.90	28.0	5.02	33.60	3.40	0.801	1.459	1.85	1.69	0.884	0.000	2.92	55.2
11289	H	S-9	7/27/89	0120	6.90	32.0	5.45	46.40	2.70	1.20	0.440	3.35	2.42	0.663	0.140	3.64	**
11289	I	S-9	7/27/89	0330	6.90	31.0	3.98	39.20	1.50	1.34	0.280	2.94	1.93	0.607	0.158	4.90	48.0
11289	J	S-9	7/27/89	0520	6.90	30.0	4.88	28.00	1.70	1.25	0.310	4.31	1.96	0.615	0.138	4.54	31.8
11289	K	S-9	7/27/89	0715	7.00	30.0	3.85	26.80	1.10	1.18	0.530	3.58	2.28	0.631	0.128	4.00	44.2
11289	L	S-9	7/27/89	0920	6.80	30.0	6.70	21.80	3.30	0.438	1.352	3.83	1.47	2.03	0.170	2.56	25.5
11380	A	S-9	8/8/89	0830	7.00	24.0	3.30	24.40	0.40	0.697	2.29	3.56	1.60	1.37	0.070	3.64	14.9
11380	B	S-9	8/8/89	1030	7.00	27.0	2.95	40.20	1.60	0.791	0.679	10.9	3.62	0.966	0.240	5.81	17.6
11380	C	S-9	8/8/89	1230	7.10	28.0	3.00	38.40	4.00	0.642	0.868	4.16	2.76	0.808	0.183	6.35	4.88
11380	D	S-9	8/8/89	1430	7.30	28.0	2.40	28.40	3.10	0.619	0.851	3.80	2.12	0.700	0.143	7.79	7.89

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11380	E	S-9	8/8/89	1630	7.30	28.0	2.80	27.60	3.60	0.716	0.794	3.76	3.20	0.835	0.170	7.07	13.2
11380	F	S-9	8/8/89	1830	7.30	26.0	3.45	34.00	3.00	0.780	1.67	4.18	2.88	1.04	0.134	5.26	3.12
11380	G	S-9	8/8/89	2245	7.10	26.0	8.20	40.20	3.40	0.694	0.876	4.93	3.40	0.972	0.228	5.81	24.7
11380	H	S-9	8/9/89	0135	7.10	25.0	3.50	38.00	2.50	0.585	0.715	4.01	3.26	0.984	0.208	5.99	8.45
11380	I	S-9	8/9/89	0345	7.20	25.5	3.15	29.60	2.30	0.680	0.760	4.12	3.14	0.874	0.189	6.35	4.09
11380	J	S-9	8/9/89	0510	7.20	25.0	3.24	32.70	2.60	0.699	1.08	4.19	3.09	0.996	0.149	NS	8.11
11380	K	S-9	8/9/89	0630	7.00	23.5	3.95	37.60	2.10	0.742	2.31	6.34	2.92	1.22	0.200	4.54	11.6
11290	A	S-9A	7/26/89	1110	7.00	27.0	13.0	33.60	7.20	0.523	3.127	4.14	1.66	1.50	0.614	2.20	2.93
11290	B	S-9A	7/26/89	1355	7.10	30.0	6.18	35.20	5.00	1.21	0.320	8.29	2.56	0.552	0.100	3.82	64.9
11290	C	S-9A	7/26/89	1545	7.00	32.0	6.35	30.80	4.40	1.30	0.210	4.63	2.14	0.596	0.214	5.08	49.0
11290	D	S-9A	7/26/89	1715	7.10	32.0	5.62	29.60	4.70	1.20	0.320	2.66	1.70	0.568	0.013	5.40	57.9
11290	E	S-9A	7/26/89	1925	7.10	30.0	6.10	30.80	4.70	0.896	1.454	3.05	2.54	0.864	0.072	2.92	87.2
11290	F	S-9A	7/26/89	2130	7.10	29.0	5.68	28.40	4.90	0.513	2.177	3.76	1.68	1.79	0.863	2.56	82.9
11290	G	S-9A	7/26/89	2340	7.10	28.0	5.85	27.80	3.20	0.558	2.142	2.33	1.91	1.95	0.110	3.28	57.6
11290	H	S-9A	7/27/89	0140	7.00	28.0	4.98	30.00	2.80	0.721	1.629	3.37	1.57	0.910	0.411	2.92	47.5
11290	I	S-9A	7/27/89	0350	7.00	30.0	4.00	16.80	2.20	1.27	0.410	2.44	2.35	0.673	0.187	4.00	37.9
11290	J	S-9A	7/27/89	0535	6.90	30.0	3.80	20.40	1.20	1.33	0.270	2.30	2.39	0.644	0.168	4.18	**
11290	K	S-9A	7/27/89	0735	7.00	29.0	5.28	18.80	1.20	0.772	1.828	2.74	1.76	1.51	0.190	3.10	**
11290	L	S-9A	7/27/89	0940	6.90	29.0	5.78	25.20	1.90	0.617	1.893	3.02	1.58	1.44	<0.050	2.20	76.2
11381	A	S-9A	8/8/89	0900	7.00	21.0	3.25	19.80	0.00	0.610	1.75	5.56	1.35	2.66	0.850	3.1	4.04
11381	B	S-9A	8/8/89	1045	7.10	25.0	3.65	34.00	1.10	0.587	2.21	3.54	1.72	2.36	0.930	3.46	11.2
11381	C	S-9A	8/8/89	1245	7.30	27.0	4.05	38.80	4.50	0.670	0.950	5.67	4.02	1.23	0.466	5.08	6.72
11381	D	S-9A	8/8/89	1445	7.30	28.0	3.75	34.00	3.30	0.700	0.840	4.49	3.23	0.92	0.215	6.17	2.86
11381	E	S-9A	8/8/89	1645	7.30	26.0	4.25	36.40	4.00	0.699	2.12	4.15	2.29	1.56	<0.050	4.54	16.4
11381	F	S-9A	8/8/89	1845	7.30	24.0	4.75	36.00	4.50	0.618	2.79	3.98	1.84	2.06	<0.050	3.1	8.01
11381	G	S-9A	8/8/89	2330	7.10	23.5	5.10	29.60	0.00	0.600	2.66	3.64	1.47	2.34	0.980	3.46	8.97
11381	H	S-9A	8/9/89	0202	7.00	24.0	3.95	28.00	2.00	0.689	1.97	4.25	2.80	>1.0	<0.050	4.72	4.22

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11381	I	S-9A	8/9/89	0408	7.20	23.0	4.35	20.00	2.50	0.837	3.40	3.79	2.03	2.32	0.950	3.64	6.46
11381	J	S-9A	8/9/89	0535	7.10	22.0	4.60	26.00	2.10	0.659	2.97	3.98	1.50	2.5	1.010	3.1	**
11381	K	S-9A	8/9/89	0655	7.00	21.0	4.70	18.40	2.20	0.625	2.71	4.46	1.52	3.02	1.370	2.74	5.96
11294	A	S-10	7/26/89	1100*	7.10	NA	6.00	NS	NA	1.78	10.620	7.76	3.72	3.59	0.500	<1	NA
11294	B	S-10	7/26/89	1500*	7.10	NA	6.95	NS	NA	2.04	11.160	6.65	4.01	3.04	0.380	<1	NA
11294	C	S-10	7/26/89	1900*	7.00	NA	8.60	NS	NA	2.21	10.790	12.5	5.11	1.27	<0.050	<1	NA
11294	D	S-10	7/26/89	2300*	7.00	NA	14.3	36.80	NA	2.14	10.760	9.35	5.21	3.26	0.700	<1	NA
11294	E	S-10	7/27/89	0300*	7.00	NA	>14.8	26.40	NA	2.18	10.920	8.24	4.28	2.89	0.320	<1	NA
11294	F	S-10	7/27/89	0700*	7.00	NA	12.7	32.80	NA	1.57	10.930	6.81	3.96	3.08	0.030	<1	NA
11383	A	S-10	8/8/89	1200*	7.20	NA	8.05	40.40	NA	2.15	12.2	9.39	4.51	4.26	1.42	0.58	NA
11383	B	S-10	8/8/89	1600*	7.20	NA	6.25	12.00	NA	2.56	12.4	7.86	4.59	3.3	0.810	0.58	NA
11383	C	S-10	8/8/89	2000*	7.20	NA	6.85	18.00	NA	2.75	12.0	8.27	4.38	NS	NS	0.58	NA
11383	D	S-10	8/9/89	0000*	7.30	NA	9.10	25.60	NA	2.84	12.2	8.19	5.73	3.51	1.00	0.58	NA
11383	E	S-10	8/9/89	0400*	6.80	NA	8.10	19.20	NA	NS	NS	8.84	5.40	>1.0	NS	0.58	NA
11383	F	S-10	8/9/89	0800*	7.10	NA	8.15	24.00	NA	2.56	13.2	5.59	5.24	3.74	0.890	0.58	NA
11291	A	S-11	7/26/89	1130	7.00	27.0	6.50	29.20	4.50	0.723	5.747	3.06	1.86	1.64	<0.050	1.48	29.1
11291	B	S-11	7/26/89	1400	7.00	30.0	NS	NS	5.70	0.975	1.275	4.14	1.97	0.838	0.028	NS	**
11291	C	S-11	7/26/89	1555	7.00	32.0	5.12	30.40	4.30	1.32	0.460	4.67	2.29	0.642	0.187	2.02	46.9
11291	D	S-11	7/26/89	1730	7.10	32.0	5.45	24.00	3.90	1.18	0.560	3.40	2.10	0.808	<0.050	4.00	35.1
11291	E	S-11	7/26/89	1930	7.10	30.0	5.82	26.00	3.30	0.649	1.881	4.08	1.67	1.23	0.713	2.56	52.4
11291	F	S-11	7/26/89	2145	6.90	28.0	5.82	28.40	6.50	0.378	1.302	2.29	1.46	1.92	0.140	2.20	4.31
11291	G	S-11	7/27/89	0000	6.90	27.0	5.15	18.00	0.70	0.208	1.012	3.84	1.38	2.26	0.450	2.74	46.2
11291	H	S-11	7/27/89	0200	6.90	28.0	5.12	29.20	2.40	0.633	2.207	2.75	1.72	1.43	<0.050	2.20	55.3
11291	I	S-11	7/27/89	0415	6.90	30.0	4.92	24.40	2.30	0.935	1.505	4.17	1.57	1.44	0.270	3.10	60.6
11291	J	S-11	7/27/89	0555	6.90	30.0	5.02	20.00	1.70	1.12	0.790	3.69	1.97	0.922	0.055	3.46	40.5
11291	K	S-11	7/27/89	0755	7.00	29.0	4.80	12.80	1.80	0.594	1.706	4.37	1.65	0.968	0.321	2.92	**
11291	L	S-11	7/27/89	1000	6.90	29.0	6.50	NS	2.35	0.792	1.698	4.80	1.57	0.862	<0.050	3.10	85.0

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11382	A	S-11	8/8/89	0915	7.00	21.0	4.25	28.40	0.00	0.861	2.99	3.70	1.73	2.96	1.150	2.2	6.25
11382	B	S-11	8/8/89	1100	7.00	23.0	4.30	29.60	1.40	0.687	2.58	3.10	1.53	2.85	0.650	2.74	9.32
11382	C	S-11	8/8/89	1300	7.20	26.0	4.70	28.40	3.90	0.720	1.96	5.13	2.65	1.94	0.973	4.04	10.3
11382	D	S-11	8/8/89	1500	7.20	28.0	4.15	24.80	3.50	0.749	1.19	3.99	2.98	0.873	0.057	4.54	11.8
11382	E	S-11	8/8/89	1600	7.20	25.0	4.60	34.40	4.10	0.605	2.45	3.30	1.42	2.27	1.655	3.82	9.51
11382	F	S-11	8/8/89	1800	7.20	24.0	5.55	40.80	4.00	0.817	3.54	5.94	1.99	2.74	1.140	2.38	7.04
11382	G	S-11	8/8/89	2345	7.10	23.0	4.55	32.40	3.30	0.592	2.65	4.47	1.30	2.55	1.140	3.28	14.9
11382	H	S-11	8/9/89	0221	7.10	23.5	4.35	28.00	3.00	0.837	3.21	4.66	2.20	2.52	1.310	3.82	15.3
11382	I	S-11	8/9/89	0425	7.10	23.0	4.25	26.00	2.50	0.688	2.87	4.30	1.65	2.41	1.260	3.46	5.52
11382	J	S-11	8/9/89	0548	7.00	21.5	4.85	18.40	1.80	0.688	3.10	2.82	1.57	2.24	0.650	2.74	2.74
11382	K	S-11	8/9/89	0735	7.00	21.0	4.91	16.00	0.70	0.422	3.10	3.77	1.47	2.47	0.710	2.38	4.21
11292	A	S-14	7/25/89	2025	7.00	26.5	2.90	62.80	5.00	0.703	0.237	2.85	0.898	0.505	0.239	5.81	37.8
11292	B	S-14	7/25/89	2240	7.10	26.5	2.62	35.20	3.70	0.857	1.683	1.12	0.757	0.521	0.222	5.81	51.4
11292	C	S-14	7/26/89	0045	7.00	27.0	2.05	37.20	3.50	0.928	0.322	2.10	0.946	0.494	0.202	7.61	43.2
11292	D	S-14	7/26/89	0245	7.10	26.0	1.60	31.60	2.75	0.789	0.431	1.58	0.780	0.410	0.136	8.69	19.5
11292	E	S-14	7/26/89	0445	7.10	26.5	1.65	21.60	2.40	0.591	0.619	1.91	0.831	0.410	0.194	8.51	8.81
11292	F	S-14	7/26/89	0645	7.10	26.0	2.81	90.00	2.10	0.928	0.232	3.15	1.07	0.602	0.278	6.53	25.1
11292	G	S-14	7/26/89	0845	6.90	26.0	6.90	49.20	1.90	0.607	0.170	2.59	0.914	0.516	0.244	6.17	30.4
11292	H	S-14	7/26/89	1000	7.00	26.0	6.52	55.60	2.00	0.601	0.246	2.64	0.993	0.521	0.249	6.35	30.0
11292	I	S-14	7/26/89	1200	6.90	29.0	3.55	29.20	2.20	0.961	0.339	1.68	1.05	0.610	0.293	7.61	3.52
11292	J	S-14	7/26/89	1430	7.00	30.0	3.40	50.40	2.90	0.755	0.475	1.16	1.19	0.421	0.144	8.51	19.8
11292	K	S-14	7/26/89	1635	7.10	29.0	2.20	24.40	3.40	0.686	0.494	1.18	1.00	0.384	0.101	9.42	20.6
11292	L	S-14	7/26/89	1915	7.20	28.0	3.88	38.80	5.40	0.862	0.338	2.04	1.09	0.573	0.262	7.07	33.2
11384	A	S-14	8/7/89	0730	7.00	28.0	4.05	47.20	4.50	0.370	0.900	2.75	0.701	0.828	0.541	7.43	41.2
11384	B	S-14	8/7/89	0930	6.90	29.0	2.85	17.20	3.00	0.563	1.27	2.42	0.773	0.889	0.465	8.33	7.15
11384	C	S-14	8/7/89	1130	7.20	30.0	2.70	NS	3.20	0.437	1.16	2.53	1.27	0.904	0.545	10.14	15.95
11384	D	S-14	8/7/89	1415	7.10	30.0	1.90	51.00	3.80	0.376	0.914	1.12	0.617	0.417	0.015	13.03	21.53

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11384	E	S-14	8/7/89	1530	7.20	27.5	2.25	60.00	4.95	0.424	2.28	1.30	0.760	0.475	0.119	12.12	10.43
11384	F	S-14	8/7/89	1730	7.20	28.0	2.85	41.60	4.10	0.472	0.828	1.81	0.920	0.608	0.234	10.5	26.12
11384	G	S-14	8/7/89	1930	7.20	27.5	3.15	23.60	4.80	0.395	0.665	3.04	1.18	0.573	0.235	8.51	34.83
11384	H	S-14	8/7/89	2130	7.20	28.0	2.90	26.80	4.10	0.504	0.826	2.54	1.50	0.580	0.188	8.69	24.09
11384	I	S-14	8/7/89	2355	7.20	27.0	1.95	48.40	2.50	0.418	0.882	1.36	0.973	0.494	0.122	11.22	7.98
11384	J	S-14	8/8/89	0130	7.30	26.0	1.62	21.20	2.70	0.420	0.890	5.46	0.779	0.486	0.105	11.22	9.21
11384	K	S-14	8/8/89	0335	7.30	25.0	2.20	29.40	2.90	0.444	0.886	2.66	0.942	0.531	0.144	9.24	15.36
11384	L	S-14	8/8/89	0536	7.30	26.0	1.80	47.60	3.10	0.501	0.829	1.53	1.26	0.562	0.131	10.86	19.02
11293	A	S-15	7/25/89	2010	7.00	26.5	4.02	100.00	3.30	0.614	0.232	2.90	0.692	0.621	0.341	5.82	56.1
11293	B	S-15	7/25/89	2220	7.10	26.5	3.40	66.00	3.90	0.659	0.187	2.28	0.885	0.547	0.270	6.17	33.0
11293	C	S-15	7/26/89	0030	7.10	27.0	2.85	36.40	3.00	0.97	0.350	2.32	1.09	0.447	0.136	6.71	25.3
11293	D	S-15	7/26/89	0230	7.00	26.0	2.38	28.80	4.20	0.943	0.337	2.00	0.975	0.473	0.174	6.89	29.3
11293	E	S-15	7/26/89	0430	7.10	26.0	2.50	38.00	2.10	0.965	0.315	2.46	1.03	0.463	0.153	7.43	28.7
11293	F	S-15	7/26/89	0630	7.10	26.0	3.30	132.00	1.90	0.61	0.133	3.01	0.927	0.706	0.424	6.17	**
11293	G	S-15	7/26/89	0900	6.90	26.0	5.52	152.00	3.00	0.492	0.124	2.90	0.874	0.687	0.302	5.63	44.2
11293	H	S-15	7/26/89	1020	7.00	27.0	5.40	149.00	3.10	0.504	0.154	3.62	0.990	0.687	0.314	5.81	52.5
11293	I	S-15	7/26/89	1215	7.00	29.0	3.52	25.20	3.00	0.829	0.311	4.67	1.13	0.615	0.303	6.35	**
11293	J	S-15	7/26/89	1415	7.20	30.0	3.70	55.20	4.10	0.893	0.397	1.43	1.04	0.484	0.181	7.43	34.5
11293	K	S-15	7/26/89	1615	7.30	29.0	3.85	95.60	5.10	0.82	0.440	2.02	1.21	0.420	0.127	7.97	**
11293	L	S-15	7/26/89	1940	7.30	28.0	4.15	96.00	4.80	0.70	0.220	2.41	1.21	0.647	0.398	6.53	**
11385	A	S-15	8/7/89	0800	7.00	27.0	3.20	33.60	3.10	0.355	0.785	2.51	0.773	0.960	0.599	8.15	17.6
11385	B	S-15	8/7/89	1000	7.00	28.0	3.85	52.40	3.20	0.356	0.844	2.61	1.15	0.985	0.703	8.87	25.9
11385	C	S-15	8/7/89	1130	7.30	30.0	3.40	35.40	4.20	0.521	1.18	1.62	0.656	0.748	0.364	12.48	36.1
11385	D	S-15	8/7/89	1430	7.10	28.0	2.50	38.40	4.80	0.462	1.17	2.47	0.890	0.478	0.088	9.78	31.5
11385	E	S-15	8/7/89	1545	7.10	28.0	3.00	47.20	4.70	0.479	0.831	3.25	0.773	0.566	0.176	9.24	29.2
11385	F	S-15	8/7/89	1745	7.10	26.0	3.50	78.80	5.20	0.388	0.632	3.21	0.751	0.628	0.319	8.33	46.5
11385	G	S-15	8/7/89	1945	7.10	26.0	3.15	98.80	3.70	0.372	0.583	1.27	0.693	0.629	0.266	7.61	39.4

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11385	H	S-15	8/7/89	2145	7.10	28.0	3.58	70.00	4.20	0.346	0.581	2.21	0.807	0.584	0.228	7.97	43.8
11385	I	S-15	8/8/89	0010	7.10	27.0	2.30	36.80	3.00	0.517	0.833	3.83	1.19	0.564	0.124	8.87	57.9
11385	J	S-15	8/8/89	0145	7.10	25.0	2.22	19.20	3.10	0.523	0.897	2.86	1.17	0.569	0.143	9.24	31.3
11385	K	S-15	8/8/89	0350	7.10	24.0	2.35	25.60	2.20	0.328	0.922	2.20	1.22	0.629	0.320	8.33	34.7
11385	L	S-15	8/8/89	0555	7.10	25.0	2.65	77.20	2.10	0.470	0.371	1.49	0.887	0.614	0.208	8.51	22.5

Footnotes:

** - No data because of breakage inherent with chlorophyll-a test. (grinding, centrifuging, etc.)
NS - No Sample Available
NA - Not Required
* - Ending time of 4 hour composite
C - Composite; see grab sample for times

Sample Station Descriptions:

M-1	Sawmill Creek - Mudflat Station
M-2, M-3	Sawmill Creek Marsh Impoundment near 53
S-1	Sawmill Creek @ Mouth
S-2	Sawmill Creek Ditch
S-3	Sawmill Creek @ N.J. Turnpike Bridge
S-4	Ditch to Sawmill Creek near PSE&G Powerline
S-9	HMDC 1C Mill Creek @ Mouth
S9A	Mill Creek below STP
S10	Secaucus STP
S11	Mill Creek @ Huber Street
S14	Berry's Creek @ NJ Turnpike Bridge
S15	Berry's Creek - Upstream @ 1.0 Miles

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11269	A	M-1	7/23/89	0615	7.10	24.0			2.90								
11269	B	M-1	7/23/89	0632	7.15	24.0			2.00								
11269	C	M-1	7/23/89	0700	7.20	25.0			2.70								
11269	D	M-1	7/23/89	0730	7.20	25.0			3.40								
11269	E	M-1	7/23/89	0755	7.20	25.0			3.00								
11269	F	M-1	7/23/89	0835	7.20	25.5			3.40								
11269	G	M-1	7/23/89	0900	7.25	25.5	4.30	50.00	2.90	0.629	<0.050	2.94	1.54	0.632	0.254	7.07	37.0
11269	H	M-1	7/23/89	0930	7.30	26.0			4.10								
11269	I	M-1	7/23/89	0955	7.25	27.0			4.30								
11269	J	M-1	7/23/89	1025	7.30	27.0			4.50								
11269	K	M-1	7/23/89	1100	7.30	27.5			4.40								
11269	L	M-1	7/23/89	1130	7.35	27.0			4.70								
11269	M	M-1	7/23/89	1155	7.40	27.0			6.00								
11269	N	M-1	7/23/89	1250	7.20	28.5	3.78	32.40	5.50	0.616	0.149	2.84	1.60	0.817	0.489	7.79	3.10
11269	O	M-1	7/23/89	1305	7.20	28.5	3.05	27.60	5.20	0.697	0.241	2.79	1.22	0.687	0.368	7.79	27.0
11269	P	M-1	7/23/89	1335	7.20	28.0	2.75	29.60	4.90	0.699	1.14	1.40	1.07	0.416	0.100	7.79	23.3
11269	Q	M-1	7/23/89	1420	7.10	28.0			4.80								
11269	R	M-1	7/23/89	1435	7.25	28.5			5.70								
11269	S	M-1	7/23/89	1500	7.55	29.0	3.52	39.60	7.90	0.615	0.865	1.11	1.00	0.717	0.414	7.97	45.4
11269	T	M-1	7/23/89	1530	7.45	29.0	3.18	36.40	8.50	0.626	1.03	1.30	0.966	0.730	0.429	8.15	48.0
11269	U	M-1	7/23/89	1600	7.50	29.0	3.45	33.60	7.20	0.642	0.226	2.36	1.05	0.682	0.382	8.33	39.2
11269	V	M-1	7/23/89	1645	7.50	29.0			5.50								
11269	W	M-1	7/23/89	1705	7.40	29.0			7.70								37.1
11269	X	M-1	7/23/89	1730	7.45	29.0			5.50								33.8
11269	Y	M-1	7/23/89	1810	7.50	29.0			7.60								46.8
11269	Z	M-1	7/23/89	1835	7.70	29.0	4.12	62.80	7.20								58.9
11269	AA	M-1	7/23/89	1900	7.20	29.0			5.90								
11269	AB	M-1	7/23/89	1930	7.60	28.5			5.70								
11269	AC	M-1	7/23/89	2015	7.45	28.0			6.40								
11269	AD	M-1	7/23/89	2045	7.35	28.0			4.50								
11269	AE	M-1	7/23/89	2105	7.30	27.5	4.30	52.80	4.60	0.513	0.243	2.56	0.986	0.682	0.426	7.79	39.8
11269	AF	M-1	7/23/89	2145	7.15	27.0			3.10								
11269	AG	M-1	7/23/89	2220	7.25	26.5			3.20								
11269	AH	M-1	7/23/89	2300	7.40	27.0			4.70								
11269	AI	M-1	7/23/89	2330	7.54	28.0			5.10								
11269	AA & AB	M-1	7/23/89	C			4.20	44.80		0.667	0.274	3.11	0.995	0.872	0.631	8.51	34.6
11269	AC & AD	M-1	7/23/89	C			3.80	45.80		0.656	0.285	3.63	0.88	0.418	0.197	7.61	34.1
11269	AF & AG	M-1	7/23/89	C			4.40	49.20		0.634	0.128	5.03	1.08	0.847	0.606	7.79	36.0
11269	AH & AI	M-1	7/23/89	C			4.30	54.00		0.655	0.126	3.95	2.02	0.772	0.573	7.61	37.7
11269	A & B	M-1	7/23/89	C			2.88	22.60		0.647	0.245	2.48	1.59	1.90	1.59	7.43	37.7
11269	C & D	M-1	7/23/89	C			2.80	20.80		0.570	0.138	2.79	1.59	2.47	2.07	7.25	8.77
11269	E & F	M-1	7/23/89	C			3.72	26.40		0.495	0.123	2.66	1.56	1.95	1.50	7.07	13.0
11269	H & I	M-1	7/23/89	C			4.60	44.40		0.511	0.007	2.79	1.60	2.08	1.59	7.25	**
11269	J & K	M-1	7/23/89	C			4.05	56.00		0.601	0.022	2.83	1.91	1.70	1.25	7.25	23.3
11269	L & M	M-1	7/23/89	C			3.50	38.00		0.540	0.029	2.20	1.83	4.26	3.96	7.25	20.9
11269	O & R	M-1	7/23/89	C			2.72	34.80		0.708	2.01	1.12	1.06	6.05	5.77	8.13	26.4
11269	V & W	M-1	7/23/89	C			3.65	36.80		0.680	0.299	2.43	1.09	0.666	0.384	8.33	21.3
11269	X & Y	M-1	7/23/89	C			3.40	39.60		0.662	0.297	2.75	1.10	2.58	2.34	8.15	20.1
11269	AJ	M-1	7/24/89	0005	7.60	27.0			4.70								**
11269	AK	M-1	7/24/89	0035	7.50	27.5			5.30								28.5
11269	AL	M-1	7/24/89	0100	7.45	27.5	3.62	56.40	4.30	0.483	0.335	3.07	1.33	0.697	0.449	8.33	17.0
11269	AM	M-1	7/24/89	0130	7.48	28.0	4.15	60.80	4.40	0.682	0.140	3.40	1.39	0.541	0.279	8.51	35.8
11269	AN	M-1	7/24/89	0155	7.46	27.5	2.75	66.00	3.90	0.640	0.110	3.15	1.29	0.646	0.374	8.51	21.3

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11269	AO	M-1	7/24/89	0230	7.22	27.5	3.20	48.60	2.30	0.738	0.272	1.92	0.964	0.571	0.284	8.15	17.2
11269	AP	M-1	7/24/89	0300	7.29	27.5	2.90	24.40	2.60	0.734	0.229	2.42	1.02	0.536	0.248	8.51	13.1
11269	AQ	M-1	7/24/89	0330	7.26	27.0	2.00	36.80	2.70	0.721	0.228	2.08	0.937	0.692	0.409	8.51	**
11269	AR	M-1	7/24/89	0355	7.54	26.5	2.28	26.80	3.75	0.711	0.211	2.76	1.10	0.375	0.126	8.33	**
11269	AS	M-1	7/24/89	0430	7.30	26.5	4.02	30.40	2.50	0.703	0.199	3.10	1.19	0.717	0.419	8.33	17.8
11269	AT	M-1	7/24/89	0530	7.34	26.0	2.90	26.40	2.70	0.695	0.186	3.02	1.12	0.722	0.429	8.33	23.3
11269	AU	M-1	7/24/89	0555	7.34	26.0			2.10								
11269	AV	M-1	7/24/89	0635	7.30	26.5			2.10								
11269	AW	M-1	7/24/89	0700	7.30	26.5			2.40								
11269	AX	M-1	7/24/89	0730	7.33	26.5			3.10								
11269	AY	M-1	7/24/89	0800	7.40	26.5		31.60	2.30								22.9
11269	AZ	M-1	7/24/89	0830						0.629	0.196	2.41	1.31	0.692	0.422	NS	**
11269	AJ & AK	M-1	7/24/89	C			4.95	72.40		0.663	0.146	4.03	1.73	0.438	0.216	7.79	23.4
11269	AW & AX	M-1	7/24/89	C			4.15	25.60		0.646	0.228	3.11	1.13	0.812	0.516	7.97	11.2
11269	AU & AV	M-1	7/24/89	C			3.75	24.00		0.652	0.279	2.91	1.04	0.732	0.458	7.97	20.5
11270	A	M-2	7/23/89	0615	7.05	24.0	3.35	159.00	1.30	0.120	0.030	3.87	1.21	2.29	1.42	NS	**
11270	B	M-2	7/23/89	0700	7.25	23.0			3.20								
11270	C	M-2	7/23/89	0730	7.30	23.0			2.60								
11270	D	M-2	7/23/89	0800	7.30	24.0	1.75	114.50	3.60	0.060	1.08	2.99	1.36	1.68	0.792	7.61	16.9
11270	E	M-2	7/23/89	0835	7.20	25.0			3.50								
11270	F	M-2	7/23/89	0900	7.25	25.0			2.50								
11270	G	M-2	7/23/89	0930	7.15	26.0			2.50								
11270	H	M-2	7/23/89	1000	7.20	26.0			2.20								
11270	I	M-2	7/23/89	1030	7.10	26.0			1.50								
11270	J	M-2	7/23/89	1100	7.10	27.0			1.70								
11270	K	M-2	7/23/89	1130	7.10	27.0	3.00	42.60	2.00	0.898	0.202	2.10	0.986	0.468	0.169	7.07	51.6
11270	L	M-2	7/23/89	1200	7.00	28.0	2.60	55.20	1.70	0.875	0.265	2.54	0.829	0.596	0.364	7.79	10.4
11270	M	M-2	7/23/89	1230	7.05	28.0	2.45	86.40	2.00	0.789	0.301	1.89	0.751	0.220	<0.050	8.15	**
11270	N	M-2	7/23/89	1300	7.10	27.0	2.52	33.20	1.80	0.740	0.260	2.30	0.728	0.601	0.356	8.69	14.1
11270	O	M-2	7/23/89	1330	7.10	28.0	2.40	61.20	1.70	0.683	0.337	4.36	0.750	0.546	0.292	8.51	8.99
11270	P	M-2	7/23/89	1400	7.10	27.0	2.28	54.40	1.20	0.653	0.377	2.29	0.970	0.427	0.184	9.06	12.8
11270	Q	M-2	7/23/89	1430	7.15	27.0	2.22	32.00	2.00	0.646	0.424	2.17	0.711	0.391	0.144	9.24	7.10
11270	R	M-2	7/23/89	1500	7.15	27.0	2.62	63.20	1.90	0.642	0.349	1.85	0.689	0.457	0.194	9.06	2.96
11270	S	M-2	7/23/89	1530	7.20	28.0	2.85	52.40	3.10	0.658	0.962	1.83	0.601	0.674	0.398	7.61	7.13
11270	T	M-2	7/23/89	1600	7.25	29.0	3.52	62.80	3.60	0.645	0.315	2.39	0.692	0.598	0.316	8.61	2.94
11270	U	M-2	7/23/89	1630	7.25		1.38	64.40	4.10								
11270	V	M-2	7/23/89	1700	7.20	29.0			2.70								10.8
11270	W	M-2	7/23/89	1730	7.20	29.0			3.20								
11270	X	M-2	7/23/89	1800	7.20	28.0			1.80								
11270	Y	M-2	7/23/89	1830	7.20	28.0			1.30								
11270	Z	M-2	7/23/89	1900	7.20	28.0			1.70								
11270	AA	M-2	7/23/89	1930	7.20	28.0			1.20								
11270	AB	M-2	7/23/89	2000	7.20	28.0	2.25	250.00	1.30	0.170	<0.050	4.41	1.37	1.27	0.623	8.15	17.8
11270	AC	M-2	7/23/89	2030	7.25	26.0			2.30								
11270	AD	M-2	7/23/89	2100	7.23	27.0			3.10								
11270	AE	M-2	7/23/89	2130	7.17	28.0			3.90								
11270	AF	M-2	7/23/89	2200	7.20	27.0			2.50								
11270	AG	M-2	7/23/89	2230	7.20	27.0			2.70								
11270	AH	M-2	7/23/89	2300	7.24	27.0			3.40								
11270	AI	M-2	7/23/89	2330	7.15	27.0			2.40								
11270	B & C	M-2	7/23/89	C			2.92	370.00		0.075	<0.050	4.36	1.13	1.53	0.962	7.79	18.4
11270	E & F	M-2	7/23/89	C			1.98	92.00		0.194	<0.050	2.72	1.46	1.66	0.640	7.79	**
11270	G & H	M-2	7/23/89	C			2.05	68.80		0.397	0.052	2.85	1.42	0.892	0.265	7.61	10.0

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
1270	I & J	M-2	7/23/89	C			1.80	45.20		0.713	0.142	2.60	1.18	0.370	0.024	7.07	9.50
1270	V & W	M-2	7/23/89	C			1.75	40.80		0.319	0.241	1.48	0.661	0.692	0.163	8.33	**
1270	X & Y	M-2	7/23/89	C			1.52	41.20		0.115	0.013	1.85	1.16	0.962	0.046	8.57	9.70
1270	Z & AA	M-2	7/23/89	C			2.80	195.00		0.090	<0.050	3.68	1.34	1.70	0.500	8.15	25.3
1270	AC & AD	M-2	7/23/89	C			2.50	86.00		0.513	0.002	2.33	1.05	0.825	0.341	8.15	26.8
1270	AE & AF	M-2	7/23/89	C			4.85	62.80		0.672	0.133	2.68	0.944	0.426	0.112	8.15	34.8
1270	AG & AH	M-2	7/23/89	C			2.28	60.00		0.740	0.182	2.39	0.928	0.452	0.138	7.33	14.1
1270	AJ	M-2	7/24/89	0000	7.23	27.0			2.10								
1270	AK	M-2	7/24/89	0030	7.28	27.0	1.50	78.00	1.60	0.814	0.216	2.79	0.792	0.990	0.646	8.87	14.4
1270	AL	M-2	7/24/89	0100	7.27	27.0	1.52	43.20	2.10	0.756	0.294	2.37	0.767	0.468	0.197	9.60	16.0
1270	AM	M-2	7/24/89	0130	7.25	27.0	1.14	59.00	2.00	0.700	0.320	1.92	0.721	0.578	0.310	9.88	7.32
1270	AN	M-2	7/24/89	0200	7.22	27.0	1.25	34.00	2.35	0.668	0.362	2.06	0.699	0.586	0.317	9.96	10.5
1270	AO	M-2	7/24/89	0230	7.27	26.5	0.80	28.80	NS	0.635	0.405	2.15	0.129	0.306	0.040	10.32	9.28
1270	AP	M-2	7/24/89	0300	7.28	26.5	1.55	63.60	2.20	0.628	0.342	2.08	0.618	0.631	0.360	8.15	12.4
1270	AQ	M-2	7/24/89	0330	7.21	26.5	0.90	23.20	1.95	0.635	0.343	2.38	0.713	0.396	0.117	9.96	8.20
1270	AR	M-2	7/24/89	0400	7.40	26.0	1.92	43.40	2.10	0.650	0.318	2.12	0.739	0.547	0.248	9.96	46.1
1270	AS	M-2	7/24/89	0430	7.25	25.0	1.43	41.60	2.70	0.604	0.267	1.81	0.774	0.662	0.311	8.15	11.1
1270	AT	M-2	7/24/89	0500	7.29	24.0	2.33	42.00	2.50	0.514	0.212	1.68	0.742	0.872	0.449	16.10	5.64
1270	AU	M-2	7/24/89	0530	7.18	23.0	2.33	35.60	2.40	0.387	0.184	4.48	0.794	0.897	0.355	8.15	**
1270	AV	M-2	7/24/89	0600	7.24	23.0			2.30								
1270	AW	M-2	7/24/89	0630	7.36	23.0			2.10								
1270	AX	M-2	7/24/89	0700	7.31	22.5			2.70								
1270	AY	M-2	7/24/89	0730	7.32	23.0			1.50								
1270	AZ	M-2	7/24/89	0800	7.36	23.0			3.40								
1270	BA	M-2	7/24/89	0830	7.37	23.0			3.60								
1270	BB	M-2	7/24/89	0900	7.38	23.0	2.68	116.00	3.70	0.215	1.805	1.97	1.27	0.700	<0.050	8.15	26.4
1270	AI & AJ	M-2	7/24/89	C			1.72	53.60		0.809	0.600	3.13	0.898	0.437	0.145	8.33	11.6
1270	AV & AW	M-2	7/24/89	C			3.65	83.00		0.165	0.010	2.19	1.05	0.811	<0.050	8.33	8.10
1270	AX & AY	M-2	7/24/89	C			2.92	427.00		0.111	<0.050	4.48	1.36	2.32	1.34	8.15	20.8
1270	AZ & BA	M-2	7/24/89	C			2.62	104.00		0.078	<0.050	3.10	1.38	2.32	0.920	7.79	9.06
1379	A	M-2	8/6/89	0738	7.10	23.0	1.60	41.40	2.80	<0.050	0.036	2.17	1.62	1.64	<0.050	10.14	4.56
1379	B	M-2	8/6/89	0759	6.90	23.3	2.70	50.00	2.80	<0.050	0.034	3.32	1.89	2.05	0.230	9.96	7.42
1379	C	M-2	8/6/89	0831	7.00	24.0	2.10	47.60	1.60	0.119	0.083	2.73	1.64	1.64	0.110	10.32	21.4
1379	D	M-2	8/6/89	0903	7.30	24.0	2.15	517.00	1.80	0.072	0.078	2.83	1.82	3.58	2.12	9.96	13.8
1379	E	M-2	8/6/89	0929	7.10	26.5	5.10	16.40	3.10	0.623	0.323	<1.00	0.745	0.807	0.290	10.68	9.65
1379	F	M-2	8/6/89	1002	7.20	27.5	3.15	14.00	3.10	0.806	0.404	2.06	0.982	0.612	0.194	10.32	22.2
1379	G	M-2	8/6/89	1031	6.70	28.0	2.65	14.00	3.10	0.821	0.429	2.20	1.09	0.612	0.211	10.32	35.4
1379	H	M-2	8/6/89	1100	6.50	28.0	3.80	50.40	3.30	0.864	0.416	1.84	0.951	0.56	0.210	10.86	8.23
1379	I	M-2	8/6/89	1129	6.30	29.0	2.15	55.00	3.70	0.899	0.391	1.16	0.855	0.509	0.180	11.58	6.1
1379	J	M-2	8/6/89	1200	6.80	29.0	2.30	54.40	2.90	0.888	0.372	2.02	0.759	0.514	0.183	11.94	11.3
1379	K	M-2	8/6/89	1230	7.00	29.0	2.70	42.00	3.00	0.847	0.363	2.21	0.597	0.473	0.157	12.12	15.2
1379	L	M-2	8/6/89	1300	7.10	28.5	1.75	36.00	3.70	0.852	0.348	1.74	0.782	0.447	0.136	12.67	8.60
1379	M	M-2	8/6/89	1330	7.10	29.0	4.05	36.00	3.90	0.841	0.339	1.52	0.875	0.442	0.150	12.67	14.4
1379	N	M-2	8/6/89	1400	7.20	29.0	2.65	14.40	4.30	0.886	0.334	2.37	0.617	0.395	0.103	12.67	55.5
1379	O	M-2	8/6/89	1430	6.90	29.5	4.25	42.00	4.10	0.813	0.317	2.10	0.731	0.452	0.173	12.48	4.22
1379	P	M-2	8/6/89	1500	7.00	29.5	3.70	39.60	4.70	0.856	0.324	1.78	0.951	0.442	0.124	12.12	8.23
1379	Q	M-2	8/6/89	1529	7.20	30.0	3.10	56.00	5.70	0.795	0.315	1.63	0.593	0.509	0.168	11.22	22.7
1379	R	M-2	8/6/89	1600	7.30	29.5	3.60	24.40	6.20	0.769	0.281	2.13	0.678	0.617	0.222	11.22	16.4
1379	S	M-2	8/6/89	1630	7.25	29.0	3.40	48.40	5.85	0.736	0.200	1.44	0.368	0.686	0.194	11.22	32.5
1379	T	M-2	8/6/89	1701	7.10	29.0	3.05	22.00	5.20	0.638	0.155	2.25	0.617	0.684	0.096	12.12	21.3
1379	U	M-2	8/6/89	1732	7.05	29.0	2.90	65.60	4.05	0.098	0.393	1.48	0.345	0.957	0.173	12.3	37.1
1379	V	M-2	8/6/89	1801	6.90	29.0	2.70	57.60	1.90	0.058	0.127	2.11	0.942	1.06	0.040	11.4	8.22
1379	W	M-2	8/6/89	1831	7.00	28.5	2.00	44.00	1.40	0.053	0.124	1.38	1.55	1.11	0.100	11.22	4.65

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11379	X	M-2	8/6/89	1900	6.95	27.0	2.25	64.80	1.20	0.045	0.047	1.70	1.67	1.26	0.170	11.22	12.7
11379	Y	M-2	8/6/89	1930	7.00	27.0	2.30	48.40	1.70	0.092	0.149	2.09	0.976	1.16	0.140	11.94	9.21
11379	Z	M-2	8/6/89	2000	7.10	27.0	3.00	74.00	3.90	0.196	0.383	1.59	0.746	0.908	0.131	11.76	5.73
11379	AA	M-2	8/6/89	2030	7.25	27.0	3.65	73.20	3.90	0.244	0.527	2.20	0.507	0.782	0.172	12.3	13.5
11379	AB	M-2	8/6/89	2100	7.30	27.0	3.20	76.40	6.70	0.268	0.621	1.30	0.465	0.798	0.276	11.58	10.6
11379	AC	M-2	8/6/89	2130	7.45	27.5	3.70	80.00	5.70	0.320	0.710	2.26	0.960	0.894	0.480	12.48	9.20
11379	AD	M-2	8/6/89	2200	7.40	27.0	3.40	79.60	5.20	0.384	0.816	2.24	0.565	0.879	0.491	11.58	2.35
11379	AE	M-2	8/6/89	2230	7.30	27.0	2.75	77.80	3.70	0.416	0.884	1.58	0.690	0.798	0.425	12.85	14.9
11379	AF	M-2	8/6/89	2300	7.20	27.0	3.00	61.20	2.50	0.393	0.907	1.39	0.566	0.818	0.480	12.85	22.1
11379	AG	M-2	8/6/89	2330	7.15	27.0	2.30	66.80	2.40	0.375	0.955	1.30	0.568	0.763	0.429	13.39	25.0
11379	AH	M-2	8/7/89	0000	7.00	28.5	2.20	66.80	1.40	0.353	0.947	7.11	0.542	0.571	0.262	14.47	11.4
11379	AI	M-2	8/7/89	0036	7.00	27.5	2.15	45.20	2.90	0.350	0.960	2.30	0.983	0.49	0.172	12.12	4.56
11379	AJ	M-2	8/7/89	0108	7.05	27.5	2.20	45.60	3.30	0.345	0.995	1.46	0.529	0.556	0.249	12.67	8.22
11379	AK	M-2	8/7/89	0130	7.05	28.0	1.70	42.00	3.20	0.338	0.972	2.16	0.488	0.454	0.163	12.85	4.32
11379	AM	M-2	8/7/89	0200	7.10	25.0	3.15	124.00	2.20	0.342	0.948	1.78	0.534	0.556	0.259	13.03	3.67
11379	AN	M-2	8/7/89	0230	7.05	26.5	2.15	38.40	2.20	0.330	0.930	1.44	1.19	0.586	0.242	14.65	3.00
11379	AO	M-2	8/7/89	0300	7.00	27.0	2.05	51.20	2.10	0.325	0.895	2.58	1.57	0.985	0.624	13.39	11.5
11379	AP	M-2	8/7/89	0330	7.00	26.0	2.60	80.80	1.80	0.304	0.756	<1.0	0.914	0.856	0.406	13.39	4.18
11379	AQ	M-2	8/7/89	0400	6.75	25.0	2.55	49.60	1.70	0.248	0.643	1.08	0.531	0.856	0.309	12.48	16.7
11379	AR	M-2	8/7/89	0430	6.85	24.0	2.80	80.80	1.70	0.217	0.586	1.02	0.535	0.957	0.323	12.48	33.9
11379	AS	M-2	8/7/89	0500	6.90	24.0	2.50	41.60	1.20	0.145	0.356	3.00	0.652	1.11	0.230	12.3	8.10
11379	AT	M-2	8/7/89	0530	6.90	23.5	2.85	58.00	1.60	0.051	0.070	2.09	1.56	1.46	1.332	12.3	9.92
11379	AU	M-2	8/7/89	0600	7.15	23.0	2.25	82.40	1.70	0.042	0.027	2.49	1.44	1.66	1.499	11.76	15.2
11271	A	M-3	7/23/89	1220	7.25	29.0	2.40	28.80	3.40	0.711	0.162	1.76	1.13	0.957	0.527	8.15	**
11271	B	M-3	7/23/89	1245	7.25	29.0			3.70								
11271	C	M-3	7/23/89	1315	7.30	29.0			4.10								
11271	D	M-3	7/23/89	1348	7.30	29.0			4.00								
11271	E	M-3	7/23/89	1415	7.15	30.0			5.60								
11271	F	M-3	7/23/89	1445	7.20	30.0			4.80								
11271	G	M-3	7/23/89	1515	7.05	29.0			3.10								
11271	H	M-3	7/23/89	1545	7.00	28.0			2.40								
11271	I	M-3	7/23/89	1618	7.10	28.0			2.80								
11271	B & C	M-3	7/23/89	C			2.70	33.60		0.690	0.269	2.95	0.992	0.376	<0.050	8.51	**
11271	D & E	M-3	7/23/89	C			2.80	20.00		0.692	0.275	3.21	0.793	0.421	0.104	7.97	32.8
11271	F & G	M-3	7/23/89	C			3.02	21.60		0.665	0.355	1.79	0.950	0.616	0.290	8.87	21.6
11271	H & I	M-3	7/23/89	C			1.75	15.20		0.437	0.274	1.45	0.603	0.497	0.103	8.33	24.5
11271	J	M-3	7/24/89	0018	7.28	25.0			2.00								
11271	K	M-3	7/24/89	0045	7.24	25.0			1.90								
11271	L	M-3	7/24/89	0115	7.22	26.0			1.70								
11271	M	M-3	7/24/89	0145	7.22	26.0			1.70								
11271	N	M-3	7/24/89	0215	7.00	26.0			2.10								
11271	O	M-3	7/24/89	0245	7.03	26.5			1.90								
11271	P	M-3	7/24/89	0315	7.05	26.5			1.60								
11271	Q	M-3	7/24/89	0345	7.05	25.0			1.30								
11271	R	M-3	7/24/89	0415	7.10	25.0	2.53	20.40	1.70	0.467	0.190	1.61	0.846	0.897	0.570	8.15	8.34
11271	J & K	M-3	7/24/89	C			2.45	16.80		0.588	0.177	3.44	1.01	0.541	0.047	8.51	20.7
11271	L & M	M-3	7/24/89	C			1.45	34.80		0.693	0.287	2.68	0.908	0.411	0.066	NS	18.7
11271	N & O	M-3	7/24/89	C			1.38	34.00		0.685	0.345	2.91	0.843	0.376	0.061	NS	7.40
11271	P & Q	M-3	7/24/89	C			1.45	20.40		0.607	0.321	2.37	0.776	0.601	0.271	NS	14.4
11265	A	S-1	7/23/89	0620	7.10	23.0	1.32	90.80	1.60	0.691	0.168	1.28	0.936	0.737	0.417	8.33	5.88
11265	B	S-1	7/23/89	0810	7.20	26.5	1.10	44.80	1.40	0.706	0.199	2.39	0.537	0.717	0.387	8.15	2.52
11265	C	S-1	7/23/89	1010	7.35	28.0	1.25	39.20	1.50	0.762	0.358	1.73	0.494	0.601	0.295	8.87	3.34
11265	D	S-1	7/23/89	1220	7.10	28.0	0.90	40.00	2.10	0.465	0.437	1.38	0.929	0.857	0.600	12.48	1.90

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11265	E	S-1	7/23/89	1400	7.20	28.0	1.18	28.40	1.90	0.362	0.522	1.44	0.417	0.452	0.204	10.64	2.18
11265	F	S-1	7/23/89	1605	7.20	29.0	1.48	30.80	3.20	0.560	0.450	1.24	0.405	0.520	0.225	9.24	4.27
11265	G	S-1	7/23/89	1805	7.20	30.0	2.38	102.00	5.00	0.669	0.244	1.66	0.591	0.970	0.707	8.33	4.04
11265	H	S-1	7/23/89	2010	7.40	30.0	3.00	91.20	5.50	0.677	0.155	3.25	1.49	0.722	0.423	8.33	4.75
11265	I	S-1	7/23/89	2200	7.20	30.0	1.60	44.80	2.00	0.722	0.338	1.87	0.920	0.646	0.419	13.03	3.42
11265	J	S-1	7/24/89	0020	7.23	26.0	1.18	53.60	2.00	0.419	0.486	2.02	0.655	0.516	0.291	13.57	1.86
11265	K	S-1	7/24/89	0210	7.25	27.0	1.40	17.60	2.30	0.385	0.510	1.02	0.671	0.396	0.126	12.85	2.26
11265	L	S-1	7/24/89	0410	7.30	27.0	1.15	25.20	2.40	0.546	0.484	1.06	0.751	0.511	0.207	11.22	1.39
11265	M	S-1	7/24/89	0600	7.34	27.0	1.30	77.60	2.20	0.677	0.220	1.48	0.654	2.91	2.599	9.60	10.9
11375	A	S-1	8/6/89	0700	7.30	29.0	2.80	72.40	3.30	0.376	0.694	0.425	1.11	0.586	0.263	11.04	22.5
11375	B	S-1	8/6/89	0925	7.30	30.0	2.03	47.60	3.30	0.386	1.12	0.692	0.740	0.437	0.140	NS	**
11375	C	S-1	8/6/89	1120	7.10	30.0	1.45	56.40	2.90	0.289	0.801	1.70	0.862	0.37	0.117	16.64	10.68
11375	D	S-1	8/6/89	1310	7.30	30.0	2.15	35.20	3.60	0.242	0.738	1.66	0.890	0.318	0.122	15.91	6.03
11375	E	S-1	8/6/89	1540	7.10	31.0	2.50	51.20	4.00	0.314	0.876	1.41	0.786	0.395	0.127	13.57	14.8
11375	F	S-1	8/6/89	1722	7.30	31.0	3.12	110.00	4.90	0.350	0.820	1.66	0.568	0.524	0.246	12.12	38.8
11375	G	S-1	8/6/89	1930	7.70	31.0	4.25	109.00	9.80	0.356	0.734	2.26	0.760	0.591	0.281	11.1	57.3
11375	H	S-1	8/6/89	2115	7.15	30.0	1.95	51.60	4.00	0.364	0.926	1.31	0.741	0.452	0.133	12.3	25.9
11375	I	S-1	8/6/89	2310	7.20	31.0	1.90	51.40	1.90	0.290	0.880	1.50	0.904	0.375	0.102	14.29	13.75
11375	J	S-1	8/7/89	0100	6.95	30.0	1.35	32.80	3.50	0.253	0.807	1.37	0.844	0.318	0.066	15.73	**
11375	K	S-1	8/7/89	0315	7.10	30.0	1.80	32.40	2.80	0.304	0.896	1.48	0.683	0.385	0.085	14.83	8.17
11375	L	S-1	8/7/89	0530	7.10	30.0	2.20	84.00	3.30	0.351	0.859	1.53	1.10	0.545	0.195	12.48	12.0
11266	A	S-2	7/23/89	0645	7.20	26.0	1.85	124.00	2.00	0.677	0.098	2.16	1.53	0.867	0.557	8.15	7.52
11266	B	S-2	7/23/89	0825	7.30	26.0	1.62	42.80	1.40	0.679	0.193	2.87	1.79	0.692	0.360	7.97	1.39
11266	C	S-2	7/23/89	1030	7.10	28.0	1.45	69.20	1.20	0.788	0.322	1.42	0.744	0.727	0.430	8.51	8.90
11266	D	S-2	7/23/89	1235	7.10	28.0	1.28	25.20	1.70	0.547	0.473	1.00	0.757	0.481	0.227	11.58	1.44
11266	E	S-2	7/23/89	1415	7.10	28.0	1.10	22.40	2.00	0.442	0.469	1.16	0.675	0.464	0.233	12.85	1.79
11266	F	S-2	7/23/89	1620	7.20	29.0	0.65	58.80	3.00	0.615	0.335	1.51	0.760	0.621	0.340	10.68	1.52
11266	G	S-2	7/23/89	1820	7.45	30.0	2.95	131.00	5.90	0.687	0.180	1.94	1.01	0.777	0.489	4.30	3.30
11266	H	S-2	7/23/89	2020	7.40	30.0	1.78	38.00	3.00	0.809	0.251	3.40	1.29	0.702	0.396	8.87	4.20
11266	I	S-2	7/23/89	2215	7.25	30.0	1.95	57.60	1.90	0.762	0.308	1.94	0.943	0.692	0.388	8.87	8.42
11266	J	S-2	7/24/89	0040	7.28	27.0	1.60	39.20	1.90	0.541	0.489	1.44	0.750	0.546	0.282	11.22	2.00
11266	K	S-2	7/24/89	0230	7.28	26.0	1.50	22.00	2.10	0.408	0.526	1.36	0.663	0.436	0.204	9.78	2.11
11266	L	S-2	7/24/89	0430	7.27	27.0	1.40	36.80	1.60	0.592	0.418	1.34	0.761	0.636	0.343	11.58	1.39
11266	M	S-2	7/24/89	0615	7.38	27.0	1.95	112.00	1.60	0.683	0.264	1.93	0.965	0.747	0.433	12.12	2.90
11376	A	S-2	8/6/89	0710	7.40	29.0	2.35	43.20	2.70	0.362	0.768	2.98	1.02	0.638	0.274	13.39	6.39
11376	B	S-2	8/6/89	0915	7.20	31.0	2.80	54.00	3.10	0.409	1.03	2.40	1.20	0.478	0.152	11.4	2.83
11376	C	S-2	8/6/89	1126	7.00	30.0	1.80	26.40	2.60	0.322	0.938	<1.0	1.02	0.411	0.134	11.58	1.73
11376	D	S-2	8/6/89	1321	7.20	30.0	2.80	46.40	3.60	0.276	0.884	1.32	1.06	0.318	0.081	14.83	4.02
11376	E	S-2	8/6/89	1555	7.20	30.0	2.25	38.40	3.30	0.327	0.973	2.23	1.06	0.437	0.155	14.83	2.58
11376	F	S-2	8/6/89	1730	7.45	30.0	3.08	60.00	4.45	0.353	0.727	1.76	0.629	0.501	0.204	13.03	1.95
11376	G	S-2	8/6/89	1950	8.00	31.0	4.35	23.20	10.30	0.359	0.711	2.36	1.15	0.555	0.259	12.03	39.1
11376	H	S-2	8/6/89	2125	7.40	30.0	2.70	32.40	4.10	0.384	0.906	1.84	1.08	0.524	0.198	11.22	4.40
11376	I	S-2	8/6/89	2320	7.15	30.0	1.45	31.60	1.90	0.319	0.871	<1.0	0.316	0.457	0.165	11.76	1.68
11376	J	S-2	8/7/89	0110	7.05	30.0	1.15	24.80	3.50	0.281	0.859	<1.0	1.23	0.344	0.073	13.76	2.04
11376	K	S-2	8/7/89	0325	7.10	30.0	1.40	58.20	2.40	0.312	0.858	2.2	1.19	0.406	0.086	13.57	4.20
11376	L	S-2	8/7/89	0540	7.10	30.0	2.15	135.00	3.20	0.353	0.797	1.36	1.13	0.807	0.424	12.48	**
11267	A	S-3	7/23/89	0700	7.15	26.0	2.70	210.00	1.50	0.652	0.015	3.35	1.87	0.997	0.675	8.15	4.60
11267	B	S-3	7/23/89	0840	7.30	26.0	2.70	59.60	1.50	0.577	0.073	3.65	2.12	0.767	0.440	8.87	1.67
11267	C	S-3	7/23/89	1040	7.35	28.0	1.51	30.80	1.30	0.810	0.290	1.90	1.10	0.747	0.434	7.61	1.77
11267	D	S-3	7/23/89	1300	7.10	28.0	0.85	28.80	2.20	0.687	0.393	1.27	0.851	0.576	0.292	9.42	1.61
11267	E	S-3	7/23/89	1425	7.15	28.0	1.20	21.20	2.20	0.579	0.471	1.04	0.771	0.480	0.215	10.50	1.56
11267	F	S-3	7/23/89	1635	7.25	29.0	1.92	37.60	2.30	0.658	0.372	1.47	0.894	0.561	0.273	8.69	6.14
11267	G	S-3	7/23/89	1835	7.50	30.0	3.10	106.00	6.30	0.663	0.157	2.99	1.14	0.687	0.417	8.33	20.1

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11267	H	S-3	7/23/89	2030	7.50	30.0	3.25	94.70	6.50	0.634	0.078	2.59	1.78	0.697	0.468	8.33	**
11267	I	S-3	7/23/89	2225	7.30	30.0	2.25	128.00	2.90	0.791	0.107	2.40	1.13	0.917	0.618	8.15	4.86
11267	J	S-3	7/24/89	0100	7.28	28.0	1.30	30.40	1.70	0.695	0.282	0.98	0.267	0.551	0.257	9.60	1.47
11267	K	S-3	7/24/89	0245	7.28	27.0	1.20	22.80	2.20	0.590	0.480	1.66	0.783	0.676	0.400	10.32	1.67
11267	L	S-3	7/24/89	0445	7.30	28.0	1.45	26.80	2.00	0.671	0.409	1.97	0.883	0.601	0.310	9.60	4.06
11267	M	S-3	7/24/89	0630	7.37	28.0	1.82	49.20	2.00	0.680	0.301	1.86	1.12	0.672	0.360	9.06	3.09
11377	A	S-3	8/6/89	0720	7.40	29.0	3.65	98.80	2.10	0.343	0.619	2.36	1.85	0.643	0.303	10.68	7.89
11377	B	S-3	8/6/89	0935	7.30	30.0	4.50	109.00	3.50	0.423	0.877	2.14	1.63	0.622	0.282	8.15	13.4
11377	C	S-3	8/6/89	1133	6.90	30.0	2.15	61.20	3.80	0.375	0.925	1.23	1.53	0.457	0.149	11.58	10.7
11377	D	S-3	8/6/89	1329	6.90	30.0	2.60	45.20	2.70	0.332	0.878	1.35	1.32	0.401	0.120	12.85	12.0
11377	E	S-3	8/6/89	1545	7.30	30.0	2.90	49.20	5.50	0.350	1.08	1.35	1.17	0.447	0.152	12.12	9.69
11377	F	S-3	8/6/89	1740	7.70	30.0	2.88	97.70	6.65	0.361	0.719	3.24	0.069	1.19	<0.050	11.58	31.4
11377	G	S-3	8/6/89	2000	8.05	30.0	4.50	116.00	11.30	0.353	0.584	2.75	1.19	0.863	0.576	11.22	36.4
11377	H	S-3	8/6/89	2140	7.55	30.0	3.65	100.00	5.40	0.397	0.833	2.30	0.669	0.884	0.562	11.22	19.8
11377	I	S-3	8/6/89	2330	7.25	31.0	1.95	54.40	3.00	0.357	0.833	2.24	0.789	0.646	0.332	12.48	8.01
11377	J	S-3	8/7/89	0123	7.15	30.0	3.45	46.30	3.20	0.326	0.904	2.02	0.772	0.566	0.260	13.75	9.52
11377	K	S-3	8/7/89	0340	7.20	30.0	2.10	63.20	1.80	0.343	0.671	1.50	0.799	0.586	0.257	11.58	8.31
11377	L	S-3	8/7/89	0550	7.20	30.0	2.90	38.40	3.90	0.349	0.600	2.76	0.841	0.737	0.364	12.67	26.8
11268	J	S-4	7/23/89	0000	7.25	26.5	4.48	54.40	3.30	0.770	1.190	1.85	0.767	0.518	0.220	8.87	**
11268	A	S-4	7/23/89	0610	7.20	24.0	2.55	135.00	3.20	0.550	<0.050	8.86	2.78	0.792	0.390	7.97	**
11268	B	S-4	7/23/89	0805	7.40	25.5	3.80	130.00	3.00	0.418	<0.050	13.9	10.1	0.957	0.416	7.97	34.4
11268	C	S-4	7/23/89	1005	7.40	26.5	3.05	52.80	2.60	0.528	0.052	4.83	2.75	0.754	0.415	7.97	5.22
11268	D	S-4	7/23/89	1205	7.25	28.5	3.68	52.40	2.80	0.766	0.294	2.25	1.05	0.654	0.348	8.51	2.24
11268	E	S-4	7/23/89	1400	7.10	29.0	0.95	27.60	3.40	0.650	1.000	1.45	0.692	0.551	0.276	9.60	25.2
11268	F	S-4	7/23/89	1610	7.30	28.5	0.35	35.20	4.10	0.647	0.383	1.61	0.935	0.521	0.231	9.78	5.54
11268	G	S-4	7/23/89	1750	7.25	29.5	1.60	60.40	6.20	0.677	0.260	2.44	1.25	0.646	0.362	8.33	24.9
11268	H	S-4	7/23/89	2000	7.30	28.0		346.00	4.00	0.556	0.354	11.8	7.02	0.975	0.685	8.69	43
11268	I	S-4	7/23/89	2200	7.20	28.0	3.42	89.20	4.30	0.634	0.086	2.90	1.92	0.747	0.428	NS	30.9
11268	K	S-4	7/24/89	0200	7.30	26.5	3.30	30.40	2.40	0.659	0.421	1.50	0.840	0.511	0.257	8.87	8.30
11268	L	S-4	7/24/89	0405	7.41	26.0	6.52	30.00	1.60	0.681	0.389	2.35	0.929	0.581	0.270	8.69	**
11268	M	S-4	7/24/89	0600	7.26	26.0	2.82	54.00	1.80	0.654	0.257	2.31	1.27	0.672	0.387	8.33	8.90
11378	A	S-4	8/6/89	0700	7.20	26.0	4.90	553.00	3.50	0.277	<0.050	7.52	5.35	1.26	0.732	11.22	7.32
11378	B	S-4	8/6/89	0900	6.50	29.5	3.25	80.80	4.50	0.314	0.492	1.98	1.48	0.98	0.630	11.4	11.2
11378	C	S-4	8/6/89	1100	5.90	31.0	5.00	85.60	4.70	0.403	0.837	2.41	0.677	0.934	0.581	11.58	14.8
11378	D	S-4	8/6/89	1300	7.20	32.0	2.40	59.60	5.30	0.355	0.905	<1.0	0.875	0.606	0.312	13.21	12.7
11378	E	S-4	8/6/89	1500	7.40	31.0	2.50	46.00	5.95	0.348	0.892	4.17	0.407	0.345	0.069	13.03	26.8
11378	F	S-4	8/6/89	1700	7.80	32.0	3.45	74.40	8.80	0.364	0.796	1.69	0.956	0.677	0.403	11.76	29.8
11378	G	S-4	8/6/89	1900	8.30	32.0	6.40	179.00	12.00	0.342	0.365	7.39	0.455	0.78	0.489	11.94	31.0
11378	H	S-4	8/6/89	2100	8.30	31.0	6.60	76.80	11.60	0.341	0.565	3.57	1.17	0.919	0.638	11.58	57.1
11378	I	S-4	8/6/89	2300	7.80	30.0	5.55	86.40	6.20	0.379	0.761	2.38	0.741	0.944	0.637	11.76	53.1
11378	J	S-4	8/7/89	0045	7.20	30.0	3.30	46.00	3.50	0.354	0.886	1.69	1.26	0.667	0.317	13.21	11.4
11378	K	S-4	8/7/89	0300	7.20	30.0	3.05	31.60	3.20	0.349	0.891	<1.0	0.958	0.55	0.224	13.39	10.7
11378	L	S-4	8/7/89	0600	7.05	26.5	3.90	75.20	3.50	0.329	0.583	3.12	1.66	0.95	0.565	11.94	8.57
11289	A	S-9	7/26/89	1100	7.10	28.0	6.45	40.00	5.70	0.750	2.930	2.39	0.942	0.931	0.034	2.92	41.6
11289	B	S-9	7/26/89	1345	7.10	30.0	4.72	46.00	4.20	1.23	0.250	4.19	1.92	0.626	0.219	4.54	8.87
11289	C	S-9	7/26/89	1530	7.40	32.0	4.78	42.80	4.20	1.09	0.350	3.41	1.58	0.626	0.244	5.08	45.3
11289	D	S-9	7/26/89	1700	7.10	32.0	5.00	31.60	4.90	1.16	0.320	3.17	1.60	0.524	0.217	5.63	55.7
11289	E	S-9	7/26/89	1900	6.90	31.0	4.42	47.00	4.20	1.20	0.720	3.16	1.97	0.684	0.225	4.36	**
11289	F	S-9	7/26/89	2110	6.90	30.0	5.02	36.80	3.60	0.932	1.228	2.28	1.74	0.805	0.078	3.28	49.4
11289	G	S-9	7/26/89	2325	6.90	28.0	5.02	33.60	3.40	0.801	1.459	1.85	1.69	0.884	0.000	2.92	55.2
11289	H	S-9	7/27/89	0120	6.90	32.0	5.45	46.40	2.70	1.20	0.440	3.35	2.42	0.663	0.140	3.64	**
11289	I	S-9	7/27/89	0330	6.90	31.0	3.98	39.20	1.50	1.34	0.280	2.94	1.93	0.607	0.158	4.90	48.0
11289	J	S-9	7/27/89	0530	6.90	30.0	4.88	28.00	1.70	1.25	0.310	4.31	1.96	0.615	0.138	4.54	31.8

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11289	K	S-9	7/27/89	0715	7.00	30.0	3.85	26.80	1.10	1.18	0.530	3.58	2.28	0.631	0.128	4.00	44.2
11289	L	S-9	7/27/89	0920	6.80	30.0	6.70	21.80	3.30	0.438	1.352	3.83	1.47	2.03	0.170	2.56	25.5
11380	A	S-9	8/8/89	0830	7.00	24.0	3.30	24.40	0.40	0.697	2.29	3.56	1.60	1.37	0.070	3.64	14.9
11380	B	S-9	8/8/89	1030	7.00	27.0	2.95	40.20	1.60	0.791	0.679	10.9	3.62	0.966	0.240	5.81	17.6
11380	C	S-9	8/8/89	1230	7.10	28.0	3.00	38.40	4.00	0.642	0.868	4.16	2.76	0.808	0.183	6.35	4.88
11380	D	S-9	8/8/89	1430	7.30	28.0	2.40	28.40	3.10	0.619	0.851	3.80	2.12	0.700	0.143	7.79	7.89
11380	E	S-9	8/8/89	1630	7.30	28.0	2.80	27.60	3.60	0.716	0.794	3.76	3.20	0.835	0.170	7.07	13.2
11380	F	S-9	8/8/89	1830	7.30	26.0	3.45	34.00	3.00	0.780	1.67	4.18	2.88	1.04	0.134	5.26	3.12
11380	G	S-9	8/8/89	2245	7.10	26.0	8.20	40.20	3.40	0.694	0.876	4.93	3.40	0.972	0.228	5.81	24.7
11380	H	S-9	8/9/89	0135	7.10	25.0	3.50	38.00	2.50	0.585	0.715	4.01	3.26	0.984	0.208	5.99	8.45
11380	I	S-9	8/9/89	0345	7.20	25.5	3.15	29.60	2.30	0.680	0.760	4.12	3.14	0.874	0.189	6.35	4.09
11380	J	S-9	8/9/89	0510	7.20	25.0	3.24	32.70	2.60	0.699	1.08	4.19	3.09	0.996	0.149	NS	8.11
11380	K	S-9	8/9/89	0630	7.00	23.5	3.95	37.60	2.10	0.742	2.31	6.34	2.92	1.22	0.200	4.54	11.6
11290	A	S-9A	7/26/89	1110	7.00	27.0	13.0	33.60	7.20	0.523	3.127	4.14	1.66	1.50	0.614	2.20	2.93
11290	B	S-9A	7/26/89	1355	7.10	30.0	6.18	35.20	5.00	1.21	0.320	8.29	2.56	0.552	0.100	3.82	64.9
11290	C	S-9A	7/26/89	1545	7.00	32.0	6.35	30.80	4.40	1.30	0.210	4.63	2.14	0.596	0.214	5.08	49.0
11290	D	S-9A	7/26/89	1715	7.10	32.0	5.62	29.60	4.70	1.20	0.320	2.66	1.70	0.568	0.013	5.40	57.9
11290	E	S-9A	7/26/89	1925	7.10	30.0	6.10	30.80	4.70	0.896	1.454	3.05	2.54	0.864	0.072	2.92	87.2
11290	F	S-9A	7/26/89	2130	7.10	29.0	5.68	28.40	4.90	0.513	2.177	3.76	1.68	1.79	0.863	2.56	82.9
11290	G	S-9A	7/26/89	2340	7.10	28.0	5.85	27.80	3.20	0.558	2.142	2.33	1.91	1.95	0.110	3.28	57.6
11290	H	S-9A	7/27/89	0140	7.00	28.0	4.98	30.00	2.80	0.721	1.629	3.37	1.57	0.910	0.411	2.92	47.5
11290	I	S-9A	7/27/89	0350	7.00	30.0	4.00	16.80	2.20	1.27	0.410	2.44	2.35	0.673	0.187	4.00	37.9
11290	J	S-9A	7/27/89	0535	6.90	30.0	3.80	20.40	1.20	1.33	0.270	2.30	2.39	0.644	0.168	4.18	**
11290	K	S-9A	7/27/89	0735	7.00	29.0	5.28	18.80	1.20	0.772	1.828	2.74	1.76	1.51	0.190	3.10	**
11290	L	S-9A	7/27/89	0940	6.90	29.0	5.78	25.20	1.90	0.617	1.893	3.02	1.58	1.44	<0.050	2.20	76.2
11381	A	S-9A	8/8/89	0900	7.00	21.0	3.25	19.80	0.00	0.610	1.75	5.56	1.35	2.66	0.850	3.1	4.04
11381	B	S-9A	8/8/89	1045	7.10	25.0	3.65	34.00	1.10	0.587	2.21	3.54	1.72	2.36	0.930	3.46	11.2
11381	C	S-9A	8/8/89	1245	7.30	27.0	4.05	38.80	4.50	0.670	0.950	5.67	4.02	1.23	0.466	5.08	6.72
11381	D	S-9A	8/8/89	1445	7.30	28.0	3.75	34.00	3.30	0.700	0.840	4.49	3.23	0.92	0.215	6.17	2.86
11381	E	S-9A	8/8/89	1645	7.30	26.0	4.25	36.40	4.00	0.699	2.12	4.15	2.29	1.56	<0.050	4.54	16.4
11381	F	S-9A	8/8/89	1845	7.30	24.0	4.75	36.00	4.50	0.618	2.79	3.98	1.84	2.06	<0.050	3.1	8.01
11381	G	S-9A	8/8/89	2330	7.10	23.5	5.10	29.60	0.00	0.600	2.66	3.64	1.47	2.34	0.980	3.46	8.97
11381	H	S-9A	8/9/89	0202	7.00	24.0	3.95	28.00	2.00	0.689	1.97	4.25	2.80	>1.0	<0.050	4.72	4.22
11381	I	S-9A	8/9/89	0408	7.20	23.0	4.35	20.00	2.50	0.837	3.40	3.79	2.03	2.32	0.950	3.64	6.46
11381	J	S-9A	8/9/89	0535	7.10	22.0	4.60	26.00	2.10	0.659	2.97	3.98	1.50	2.5	1.010	3.1	**
11381	K	S-9A	8/9/89	0655	7.00	21.0	4.70	18.40	2.20	0.625	2.71	4.46	1.52	3.02	1.370	2.74	5.96
11294	A	S-10	7/26/89	1100*	7.10	NA	6.00	NS	NA	1.78	10.620	7.76	3.72	3.59	0.500	<1	NA
11294	B	S-10	7/26/89	1500*	7.10	NA	6.95	NS	NA	2.04	11.160	6.65	4.01	3.04	0.380	<1	NA
11294	C	S-10	7/26/89	1900*	7.00	NA	8.60	NS	NA	2.21	10.790	12.5	5.11	1.27	<0.050	<1	NA
11294	D	S-10	7/26/89	2300*	7.00	NA	14.3	36.80	NA	2.14	10.760	9.35	5.21	3.26	0.700	<1	NA
11294	E	S-10	7/27/89	0300*	7.00	NA	>14.8	26.40	NA	2.18	10.920	8.24	4.28	2.89	0.320	<1	NA
11294	F	S-10	7/27/89	0700*	7.00	NA	12.7	32.80	NA	1.57	10.930	6.81	3.96	3.08	0.030	<1	NA
11383	A	S-10	8/8/89	1200*	7.20	NA	8.05	40.40	NA	2.15	12.2	9.39	4.51	4.26	1.42	0.58	NA
11383	B	S-10	8/8/89	1600*	7.20	NA	6.25	12.00	NA	2.56	12.4	7.86	4.59	3.3	0.810	0.58	NA
11383	C	S-10	8/8/89	2000*	7.20	NA	6.85	18.00	NA	2.75	12.0	8.27	4.38	NS	NS	0.58	NA
11383	D	S-10	8/9/89	0000*	7.30	NA	9.10	25.60	NA	2.84	12.2	8.19	5.73	3.51	1.00	0.58	NA
11383	E	S-10	8/9/89	0400*	6.80	NA	8.10	19.20	NA	NS	NS	8.84	5.40	>1.0	NS	0.58	NA
11383	F	S-10	8/9/89	0800*	7.10	NA	8.15	24.00	NA	2.56	13.2	5.59	5.24	3.74	0.890	0.58	NA
11291	A	S-11	7/26/89	1130	7.00	27.0	6.50	29.20	4.50	0.723	5.747	3.06	1.86	1.64	<0.050	1.48	29.1
11291	B	S-11	7/26/89	1400	7.00	30.0	NS	NS	5.70	0.975	1.275	4.14	1.97	0.838	0.028	NS	**
11291	C	S-11	7/26/89	1555	7.00	32.0	5.12	30.40	4.30	1.32	0.460	4.67	2.29	0.642	0.187	2.02	46.9
11291	D	S-11	7/26/89	1730	7.10	32.0	5.45	24.00	3.90	1.18	0.560	3.40	2.10	0.808	<0.050	4.00	35.1
11291	E	S-11	7/26/89	1930	7.10	30.0	5.82	26.00	3.30	0.649	1.881	4.08	1.67	1.23	0.713	2.56	52.4

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11291	F	S-11	7/26/89	2145	6.90	28.0	5.82	28.40	6.50	0.378	1.302	2.29	1.46	1.92	0.140	2.20	4.31
11291	G	S-11	7/27/89	0000	6.90	27.0	5.15	18.00	0.70	0.208	1.012	3.84	1.38	2.26	0.450	2.74	46.2
11291	H	S-11	7/27/89	0200	6.90	28.0	5.12	29.20	2.40	0.633	2.207	2.75	1.72	1.43	<0.050	2.20	55.3
11291	I	S-11	7/27/89	0415	6.90	30.0	4.92	24.40	2.30	0.935	1.505	4.17	1.57	1.44	0.270	3.10	60.6
11291	J	S-11	7/27/89	0555	6.90	30.0	5.02	20.00	1.70	1.12	0.790	3.69	1.97	0.922	0.055	3.46	40.5
11291	K	S-11	7/27/89	0755	7.00	29.0	4.80	12.80	1.80	0.594	1.706	4.37	1.65	0.968	0.321	2.92	**
11291	L	S-11	7/27/89	1000	6.90	29.0	6.50	NS	2.35	0.792	1.698	4.80	1.57	0.862	<0.050	3.10	85.0
11382	A	S-11	8/8/89	0915	7.00	21.0	4.25	28.40	0.00	0.861	2.93	3.70	1.73	2.96	1.150	2.2	6.25
11382	B	S-11	8/8/89	1100	7.00	23.0	4.30	29.60	1.40	0.687	2.58	3.10	1.53	2.85	0.650	2.74	9.32
11382	C	S-11	8/8/89	1300	7.20	26.0	4.70	28.40	3.90	0.720	1.96	5.13	2.65	1.94	0.973	4.04	10.3
11382	D	S-11	8/8/89	1500	7.20	28.0	4.15	24.80	3.50	0.749	1.19	3.99	2.98	0.873	0.057	4.54	11.8
11382	E	S-11	8/8/89	1600	7.20	25.0	4.60	34.40	4.10	0.605	2.45	3.30	1.42	2.27	1.655	3.82	9.51
11382	F	S-11	8/8/89	1800	7.20	24.0	5.55	40.80	4.00	0.817	3.54	5.94	1.99	2.74	1.140	2.38	7.04
11382	G	S-11	8/8/89	2345	7.10	23.0	4.55	32.40	3.30	0.592	2.65	4.47	1.30	2.55	1.140	3.28	14.9
11382	H	S-11	8/9/89	0221	7.10	23.5	4.35	28.00	3.00	0.837	3.21	4.66	2.20	2.52	1.310	3.82	15.3
11382	I	S-11	8/9/89	0425	7.10	23.0	4.25	26.00	2.50	0.688	2.87	4.30	1.65	2.41	1.260	3.46	5.52
11382	J	S-11	8/9/89	0548	7.00	21.5	4.85	18.40	1.80	0.688	3.10	2.82	1.57	2.24	0.650	2.74	2.74
11382	K	S-11	8/9/89	0735	7.00	21.0	4.91	16.00	0.70	0.422	3.10	3.77	1.47	2.47	0.710	2.38	4.21
11292	A	S-14	7/25/89	2025	7.00	26.5	2.90	62.80	5.00	0.703	0.237	2.85	0.898	0.505	0.239	5.81	37.8
11292	B	S-14	7/25/89	2240	7.10	26.5	2.62	35.20	3.70	0.857	1.683	1.12	0.757	0.521	0.222	5.81	51.4
11292	C	S-14	7/26/89	0045	7.00	27.0	2.05	37.20	3.50	0.928	0.322	2.10	0.946	0.494	0.202	7.61	43.2
11292	D	S-14	7/26/89	0245	7.10	26.0	1.60	31.60	2.75	0.789	0.431	1.58	0.780	0.410	0.136	8.69	19.5
11292	E	S-14	7/26/89	0445	7.10	26.5	1.65	21.60	2.40	0.591	0.619	1.91	0.831	0.410	0.194	8.51	8.81
11292	F	S-14	7/26/89	0645	7.10	26.0	2.81	90.00	2.10	0.928	0.232	3.15	1.07	0.602	0.278	6.53	25.1
11292	G	S-14	7/26/89	0845	6.90	26.0	6.90	49.20	1.90	0.607	0.170	2.59	0.914	0.516	0.244	6.17	30.4
11292	H	S-14	7/26/89	1000	7.00	26.0	6.52	55.60	2.00	0.601	0.246	2.64	0.993	0.521	0.249	6.35	30.0
11292	I	S-14	7/26/89	1200	6.90	29.0	3.55	29.20	2.20	0.961	0.339	1.68	1.05	0.610	0.293	7.61	3.52
11292	J	S-14	7/26/89	1430	7.00	30.0	3.40	50.40	2.90	0.755	0.475	1.16	1.19	0.421	0.144	8.51	19.8
11292	K	S-14	7/26/89	1635	7.10	29.0	2.20	24.40	3.40	0.686	0.494	1.18	1.00	0.384	0.101	9.42	20.6
11292	L	S-14	7/26/89	1915	7.20	28.0	3.88	38.80	5.40	0.862	0.338	2.04	1.09	0.573	0.262	7.07	33.2
11384	A	S-14	8/7/89	0730	7.00	28.0	4.05	47.20	4.50	0.370	0.900	2.75	0.701	0.828	0.541	7.43	41.2
11384	B	S-14	8/7/89	0930	6.90	29.0	2.85	17.20	3.00	0.563	1.27	2.42	0.773	0.889	0.465	8.33	7.15
11384	C	S-14	8/7/89	1130	7.20	30.0	2.70	NS	3.20	0.437	1.16	2.53	1.27	0.904	0.545	10.14	15.95
11384	D	S-14	8/7/89	1415	7.10	30.0	1.90	51.00	3.80	0.376	0.914	1.12	0.617	0.417	0.015	13.03	21.53
11384	E	S-14	8/7/89	1530	7.20	27.5	2.25	60.00	4.95	0.424	2.28	1.30	0.760	0.475	0.119	12.12	10.43
11384	F	S-14	8/7/89	1730	7.20	28.0	2.85	41.60	4.10	0.472	0.828	1.81	0.920	0.608	0.234	10.5	26.12
11384	G	S-14	8/7/89	1930	7.20	27.5	3.15	23.60	4.80	0.395	0.665	3.04	1.18	0.573	0.235	8.51	34.83
11384	H	S-14	8/7/89	2130	7.20	28.0	2.90	26.80	4.10	0.504	0.826	2.54	1.50	0.580	0.188	8.69	24.09
11384	I	S-14	8/7/89	2355	7.20	27.0	1.95	48.40	2.50	0.418	0.882	1.36	0.973	0.494	0.122	11.22	7.98
11384	J	S-14	8/8/89	0130	7.30	26.0	1.62	21.20	2.70	0.420	0.890	5.46	0.779	0.486	0.105	11.22	9.21
11384	K	S-14	8/8/89	0335	7.30	25.0	2.20	29.40	2.90	0.444	0.886	2.66	0.942	0.531	0.144	9.24	15.36
11384	L	S-14	8/8/89	0536	7.30	26.0	1.80	47.60	3.10	0.501	0.829	1.53	1.26	0.562	0.131	10.86	19.02
11293	A	S-15	7/25/89	2010	7.00	26.5	4.02	100.00	3.30	0.614	0.232	2.90	0.692	0.621	0.341	5.82	56.1
11293	B	S-15	7/25/89	2220	7.10	26.5	3.40	66.00	3.90	0.659	0.187	2.28	0.885	0.547	0.270	6.17	33.0
11293	C	S-15	7/26/89	0030	7.10	27.0	2.85	36.40	3.00	0.97	0.350	2.32	1.09	0.447	0.136	6.71	25.3
11293	D	S-15	7/26/89	0230	7.00	26.0	2.38	28.80	4.20	0.943	0.337	2.00	0.975	0.473	0.174	6.89	29.3
11293	E	S-15	7/26/89	0430	7.10	26.0	2.50	38.00	2.10	0.965	0.315	2.46	1.03	0.463	0.153	7.43	28.7
11293	F	S-15	7/26/89	0630	7.10	26.0	3.30	132.00	1.90	0.61	0.133	3.01	0.927	0.706	0.424	6.17	**
11293	G	S-15	7/26/89	0900	6.90	26.0	5.52	152.00	3.00	0.492	0.124	2.90	0.874	0.687	0.302	5.63	44.2
11293	H	S-15	7/26/89	1020	7.00	27.0	5.40	149.00	3.10	0.504	0.154	3.62	0.990	0.687	0.314	5.81	52.5
11293	I	S-15	7/26/89	1215	7.00	29.0	3.52	25.20	3.00	0.829	0.311	4.67	1.13	0.615	0.303	6.35	**
11293	J	S-15	7/26/89	1415	7.20	30.0	3.70	55.20	4.10	0.893	0.397	1.43	1.04	0.484	0.181	7.43	34.5
11293	K	S-15	7/26/89	1615	7.30	29.0	3.85	95.60	5.10	0.82	0.440	2.02	1.21	0.420	0.127	7.97	**

ANALYTICAL DATA FOR TIDAL MARSH STUDY
HACKENSACK RIVER STUDY

JULY 23,24 AND AUGUST 6,7 1989

JOB #	SAMPLE #	STATION NAME	DATE	TIME	pH	TEMP. CELSIUS	CBOD5 MG/L	TSS MG/L	DO MG/L	NO2 MG/L	NO3 MG/L	TKN MG/L	NH3 MG/L	TPO4 MG/L	ORG. P MG/L	SALINITY ppt	CHLORO-A mg/m3
11293	L	S-15	7/26/89	1940	7.30	28.0	4.15	96.00	4.80	0.70	0.220	2.41	1.21	0.647	0.398	6.53	**
11385	A	S-15	8/7/89	0800	7.00	27.0	3.20	33.60	3.10	0.355	0.785	2.51	0.773	0.960	0.593	8.15	17.6
11385	B	S-15	8/7/89	1000	7.00	28.0	3.85	52.40	3.20	0.356	0.844	2.61	1.15	0.985	0.703	8.87	25.9
11385	C	S-15	8/7/89	1130	7.30	30.0	3.40	35.40	4.20	0.521	1.18	1.62	0.656	0.748	0.364	12.40	36.1
11385	D	S-15	8/7/89	1430	7.10	28.0	2.50	38.40	4.80	0.462	1.17	2.47	0.890	0.478	0.088	9.78	31.5
11385	E	S-15	8/7/89	1545	7.10	28.0	3.00	47.20	4.70	0.473	0.831	3.25	0.773	0.566	0.176	9.24	29.2
11385	F	S-15	8/7/89	1745	7.10	26.0	3.50	78.80	5.20	0.388	0.632	3.21	0.751	0.628	0.319	8.33	46.5
11385	G	S-15	8/7/89	1945	7.10	26.0	3.15	98.80	3.70	0.372	0.583	1.27	0.693	0.629	0.266	7.61	39.4
11385	H	S-15	8/7/89	2145	7.10	28.0	3.58	70.00	4.20	0.346	0.581	2.21	0.807	0.584	0.228	7.97	43.8
11385	I	S-15	8/8/89	0010	7.10	27.0	2.30	36.80	3.00	0.517	0.833	3.83	1.19	0.564	0.124	8.87	57.9
11385	J	S-15	8/8/89	0145	7.10	25.0	2.22	19.20	3.10	0.523	0.837	2.86	1.17	0.569	0.143	9.24	31.9
11385	K	S-15	8/8/89	0350	7.10	24.0	2.35	25.60	2.20	0.328	0.922	2.20	1.22	0.629	0.320	8.33	34.7
11385	L	S-15	8/8/89	0555	7.10	25.0	2.65	77.20	2.10	0.470	0.371	1.49	0.887	0.614	0.208	8.51	22.5

Footnotes:

** - No data because of breakage inherent with chlorophyll-a test. (grinding, centrifuging, etc.)
NS - No Sample Available
NA - Not Required
* - Ending time of 4 hour composite
C - Composite; see grab sample for times

Sample Station Descriptions:

M-1	Sawmill Creek - Mudflat Station
M-2, M-3	Sawmill Creek Marsh Impoundment near 53
S-1	Sawmill Creek @ Mouth
S-2	Sawmill Creek Ditch
S-3	Sawmill Creek @ N.J. Turnpike Bridge
S-4	Ditch to Sawmill Creek near PSE&G Powerline
S-9	Mill Creek @ Mouth
S9A	Mill Creek below STP
S10	Secaucus STP
S11	Mill Creek @ Huber Street
S14	Berry's Creek @ NJ Turnpike Bridge
S15	Berry's Creek - Upstream @ 1.0 Miles

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SECTION 23

ANALYTICAL DATA

CSO AND STORM SEWER LOCATIONS

(KEARNEY, SIP, AND ST. PAUL)

OCTOBER 17 AND 31, 1989, STORM EVENTS

ANALYTICAL DATA FOR CSO & STORM SEWER LOCATIONS
HACKENSACK RIVER STUDY

OCTOBER 17 & 31, 1989 STORM EVENT (NO CONCURRENT RIVER SAMPLING)

SAMPLE NUMBER	STATION NAME	DATE	TIME	CBOD5 MG/L	TSS MG/L	TKN MG/L	NH3 MG/L	NO3+NO2 MG/L	NO2 MG/L	NO3 MG/L	pH
	C-8	10/31/89	1300	33.3	433	5.34	3.11	0.344	0.213	0.131	6.60
	C-8	10/31/89	1330	30.6	566	5.77	3.39	0.500	0.199	0.301	6.60
	C-8	10/31/89	1400	37.5	178	4.69	2.93	0.889	0.358	0.531	6.70
	C-8	10/31/89	1430	30.0	298	2.40	1.00	0.386	0.238	0.148	6.80
	C-8	10/31/89	1500	15.4	181	2.02	0.860	0.344	0.144	0.200	6.60
	C-8	10/31/89	1530	11.1	109	1.68	0.910	0.344	0.130	0.214	6.50
	C-8	10/31/89	1600	13.0	182	1.08	0.750	0.262	0.121	0.141	6.50
	C-8	10/31/89	1630	99.0	148	0.730	0.520	0.247	0.104	0.143	6.40
	C-8	10/31/89	1700	10.2	190	0.850	0.710	0.314	0.102	0.212	6.40
	C-8	10/31/89	1800	6.60	90.0	0.490	0.483	0.249	0.082	0.167	6.50
	C-8	10/31/89	1930	3.30	55.7	0.020 U	0.186	0.267	0.037	0.230	6.50
	C-8	10/31/89	2000	6.00	38.3	0.020 U	0.185	0.270	0.039	0.231	6.40
	C-9	10/17/89	1145	242	820	6.27	2.35	1.22	0.060	1.16	5.60
	C-9	10/17/89	1200	126	466	4.48	2.28	1.30	0.210	1.09	6.00
	C-9	10/17/89	1215	40.8	173	3.01	1.57	0.593	0.064	0.529	6.00
	C-9	10/17/89	1230	56.4	228	3.00	1.49	0.667	0.065	0.602	6.00
	C-9	10/17/89	1245	40.8	174	2.53	1.11	0.688	0.059	0.629	6.20
	C-9	10/17/89	1300	34.2	76.4	1.98	0.793	0.553	0.051	0.502	6.10
	C-9	10/17/89	1315	31.2	61.6	2.87	0.963	0.699	0.053	0.646	6.00
	C-9	10/17/89	1330	26.1	66.4	2.68	1.08	0.731	0.064	0.667	6.20
	C-9	10/17/89	1345	24.2	880	2.58	0.817	0.657	0.062	0.595	6.10
	C-9	10/17/89	1400	31.2	36.4	3.50	0.922	0.713	0.063	0.650	5.90
	C-9	10/17/89	1415	37.5	57.6	4.21	1.18	0.798	0.063	0.735	6.10
	C-9	10/17/89	1430	30.6	85.8	0.933	0.972	0.602	0.058	0.544	6.10
	C-9	10/17/89	1445	24.3	31.2	2.76	0.733	0.651	0.054	0.597	6.40
	C-9	10/17/89	1500	28.2	31.5	3.61	0.961	0.839	0.059	0.780	6.10
	C-9	10/17/89	1515	31.5	59.2	6.74	1.86	0.966	0.053	0.913	6.20
	C-9	10/17/89	1530	58.8	67.6	8.55	1.44	0.902	0.085	0.817	6.10
	C-9	10/17/89	1545	63.6	40.4	8.10	1.58	0.950	0.080	0.870	6.20
	C-9	10/17/89	1600	84.9	51.6	2.99	2.48	1.43	0.519	0.911	6.60
	C-12	10/17/89	1130	288	764	9.61	8.00	0.800	0.121	0.679	8.60
	C-12	10/17/89	1130	156	373	10.1	7.19	1.16	0.202	0.958	6.80
	C-12	10/17/89	1155	110	401	4.65	1.96	1.10	0.014	1.09	6.60
	C-12	10/17/89	1210	35.4	196	4.12	1.16	0.837	0.115	0.722	8.30
	C-12	10/17/89	1230	39.6	200	1.78	0.778	0.586	0.088	0.498	8.70
	C-12	10/17/89	1300	27.6	75.0	1.39	0.628	0.585	0.099	0.486	6.90
	C-12	10/17/89	1330	88.8	41.2	2.37	0.797	0.708	0.099	0.609	8.90
	C-12	10/17/89	1350	27.3	65.2	2.37	0.794	0.658	0.093	0.565	7.70
	C-12	10/17/89	1430	30.0	60.0	2.80	0.889	0.661	0.101	0.560	8.10
	C-12	10/17/89	1450	27.6	44.4	2.53	0.730	0.656	0.092	0.564	6.70
	C-12	10/17/89	1515	27.9	40.8	5.24	1.29	1.26	0.100	1.16	6.80
	C-12	10/17/89	1535	36.6	50.0	6.38	1.68	0.841	0.100	0.741	6.80

NOTES:
C - 8 = Kearney Storm Sewer
C - 9 = Sip Avenue Overflow
C - 12 = St. Paul Street Overflow

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PART 2

Quality Control/Quality Assurance

Performance Evaluation

Submitted to:

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March 20, 1990

General Testing Corporation

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DATA AND QUALITY CONTROL QUALIFIERS

U - Indicates compound was analyzed but was not observed at a quantifiable concentration.

J - Indicates an estimated value

J Qualifiers (used in conjunction with J and/or QC page or chronology)

S - Surrogate recoveries outside of control limits

St - Surrogate recoveries outside of control limits, analysis repeated, same results obtained, matrix interference suspected

r - Laboratory replicates outside of laboratory advisory limits

t - Matrix interference suspected

h -Holding time exceeded for analysis

M - Matrix spike and/or matrix spike duplicate outside control limits

Mt - same as M
ORGANIC PARAMETERS: Matrix interference suspected, Organic reference standard was acceptable.

INORGANIC PARAMETERS: Matrix interference suspected, Repeat analysis still unacceptable

Mr - INORGANICS PARAMETERS: Matrix interference suspected, repeat analysis not conducted due to holding time limitations

B - Indicates that the analyte was found in the associated laboratory or field blank

B Qualifiers (used in conjunction with B)

l - Contamination in lab or method blank

t - Contamination in trip blank

x - Contamination in two or more types of blanks (i.e. Lab or Method, Trip, Equipment,or Field Filtration Blank)

e - Contamination in equipment blank

f - Contamination in field filtration blank

d - Results multiplied by dilution factor

MISCELLANEOUS QC AND DATA QUALIFIERS

ND - Not Detectable

NS - No Sample

NA - Not Analyzed

*+ - No limits currently established

** - See Attached Data

I - Insufficient sample to re-analyze

D - Surrogate standard diluted out

R - Sample re-analyzed outside of holding time

UP - Unable to perform analysis due to sample matrix

V - Spiked recovery cannot be determined, sample value >4 times spike concentration

++ - Outside Laboratory acceptance limits (Blank Spikes, Ref. Spikes)

RC - Results confirmed via repeat analysis

NC - Not Calculable

LE - Lab Error: No data available

t - Surrogate Matrix Interference

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SUMMARY REPORT
Quality Control/Quality Assurance Performance Evaluation
of the
Hackensack River Study

The database derived from the quality control (QC) samples analyzed for the April, July, August, October and November 1988 events of the Hackensack River Study (HRS) has been audited by the QC/QA department. The following analysis details the results of this audit. A copy of the laboratory QC reports from which the database was derived append this evaluation.

Table 1 and Figures 1 and 2 present the overall performance of the Rochester and Hackensack labs with respect to the number of samples for each analyte which were out of control limits (# OTC), and the percentage of samples which were in control (% I C). In each of the four QC categories, over 81% of all the samples analyzed were in control (range = 81% to 92%). Table 2 shows each analytes control limits and their derivation. Table 3 and Figures 3 and 4 reveal performance for the study as the mean +/- the standard deviation. All mean recoveries at the Rochester lab were over 94%, and the mean precision was 11.

An average of 92% of all the reference standards analyzed at the Rochester lab throughout the HRS were in control, with the range 87%-96% (Table 1). The mean reference standard recovery was also 94%, ranging from 90.5% to 98% (Table 3). A reference standard was not used for nitrite. Because of the nature of the parameters analyzed at the Hackensack lab, reference standards could be used for only two of the eight analytes. Turbidity reference standards were in control 73% of the time, 78% of all total suspended solids reference standards were in control (Table 1). Reference standards for total suspended solids were available for the April and July sampling events, but were unobtainable for the other three events.

Since the purpose of a reference standard is to evaluate an analyst's and an instrument's accuracy against a known standard, it can be inferred from these data that for each of the six parameters analyzed at the Rochester lab the analyst and the instrument were accurate over 90% of the time. This implies that any difficulty with poor quality control in other QC areas would more likely be due to matrix interferences or sample handling than laboratory error.

Blank spike performance at the Rochester lab was also high, averaging 86% of all blank spike recoveries in control, with a range of 74% - 95% (Table 1). Average recovery was 98%, with a range of 83% - 113% (Table 3). Again, the nature of the analyses completed at the Hackensack lab did not lend themselves to blank spiking.

As a measure of accuracy, blank spikes demonstrate the ability of the analyst and the technique to recover low levels of a known addition to deionized water. The percentage of blank spike recoveries in control was very good (above 87%) for all four forms of nitrogen analyzed, but were poorest for the phosphates, especially total phosphorus (74%). It should be noted, however, that the labs historical QC limits for TPO4 which were utilized in this study were very narrow at the high end (104%, Table 2) yet the mean TPO_4 recovery was 95%. Sample recoveries from 104 -110% (considered "good" recovery) were out of the control limits for this study. However, in the name of consistency the QC department felt it was prudent to remain with the source of the limits utilized for the other analytes. The new QC limits generated by this study's database are 74% - 115%, a spreading of the upper end limit.

At the Rochester lab an average of 81% of all matrix spikes were in control, with a range from 76% to 91% (Table 1). Average matrix spike recovery was an admirable 98% (Table 3), with only one analyte (TPO4) below an average of 95% recovery (range = 80% - 107%). 20 and 5-day BOD's were two Hackensack analytes which could be analyzed for matrix spikes, as the nature of the other six parameters is such that they cannot be spiked. Average BOD recovery was 85% (Table 3) with 85% of the samples analyzed in control (Table 1).

Analysis of sample replicates yielded precision (as percent relative range) results for all analytes at both the Rochester and Hackensack labs. Average precision of sample replicates at the Rochester lab was 11, with a range of 5.5 to 22 (Table 3). An average of 84% of all precision duplicates were in control, with a range of 78 - 90% (Table 1). At the Hackensack lab, an average of 85% of all precision duplicates were in control, ranging from 70 to 96% (Table 1). The average precision was 21, ranging from 5 to 59 (Table 3). The Hackensack lab's overall performance for precision is improved by taking into account the skewing effect of high chlorophyll-a and fecal coliform mean precision (Table 3): overall mean precision is 11.6 when chlorophyll-a and fecal coliform mean precision is omitted.

It should be emphasized that precision duplicates performed in the lab, are also to be considered as field duplicates. Duplicate samples were collected in the field and placed in separate sample bottles, an aliquot from each sample bottle was analyzed separately, and the two values derived were used to calculate precision. The calculated precision is reflecting not only the reproducibility of the analytical technique but also the field and sample handling techniques (i.e.: similar amounts of preservative, ice, etc.). If the aliquot from each bottle had been mixed and then analyzed in duplicate, one would expect that

the study's precision data would have been better. In addition, matrix spikes were performed on only one of the two sample duplicate sets. Hence, matrix spike recoveries were likewise dependent on and reflect field sampling techniques as well as lab technique. In this respect the data for precision and matrix spikes can be considered to show more than adequate consistency and accuracy in both the field and the lab.

The QC results for each parameter analyzed in Rochester are generally very favorable (Figure 1). 96% of all ammonia reference standards were in control, the average reference standard recovery of 98% was accompanied by a relatively low (12%) standard deviation. The percentage of ammonia precision duplicates in control was not as encouraging (78%), perhaps for the above "field duplicate" reasons. Nitrite was in control for over 88% of the 3 QC types performed and its average precision (5.5%) was one of the best for all analytes. Nitrate-nitrite matrix spike recovery (76%) was the 2nd lowest of the Rochester lab analytes, and showed a larger degree of fluctuation (53% standard deviation) than the other analytes except TKN. Otherwise, nitrate-nitrate QC appears average for the study. TKN blank spike and reference standard recoveries exhibited good analytical accuracy (95% and 91% in control, respectively), accompanied by relatively low fluctuation about the mean (27% and 19% standard deviation, respectively). Precision and matrix spike recovery was not as encouraging. Historical data show rather large windows for TKN QC limits (Table 2) which indicate the inherent difficulties with the method. Both nutrient analytes which require digestion, TKN and TPO_4, exhibited problems with at least one type of QC: TKN percent of precision duplicates in control was the 2nd lowest of the Rochester analytes, and TPO_4 had only 65% of its matrix spikes in control. That only 74% of the TPO_4 blank spikes were in control implies a problem with low level recovery which probably carried over to the low matrix spike recoveries and in this case probably overshadowed any potential problems due to the fact that precision duplicates were also field duplicates. The relatively low OPO_4 blank spike and matrix spike recoveries shows that there was a problem with low-level phosphate recovery for both forms of phosphate. Reference standard recovery for both forms of phosphate were good (above 87%).

While the 6 nutrients analyzed at the Rochester lab lend themselves well to estimation of overall data quality through the 4 types of QC evaluation, most of the Hackensack lab analytes could only be checked by precision (Table 1). Except for chlorophyll-a and fecal coliform, all precision calculations were less than 16 for the other 6 analytes, with dissolved oxygen, salinity and turbidity all less than or equal to 10 (Table 3, Figure 3). Poor precision is not surprising for chlorophyll-a. Besides the previously discussed field duplicates factor, which

may have more impact on chl-a than other analytes, there are the inherent difficulties within the procedure. Chlorophyll-a pigment can be lost to phaeophytin, for example, if a sample aliquot is ground too long and becomes overheated.

Fecal coliform precision was calculated using a method which differed from the way all other analyte precision was determined. According to APHA (1985) methods, fecal coliform precision limits are determined by multiplying the constant 3.27 and the average of the difference of the logs of the duplicate values. The limits derived are used as the criterion on the QC data, which are also transformed to their logarithmic values. 96% of the precision duplicates were in control using this method.

Precision for 20-day BOD was in control 79% of the time (Table 1). This is not unusual, since the varying amounts of particulates in whole samples, especially significant amounts of algae, can affect 20-day BOD analytical results. In addition, 20-day BOD precision was influenced heavily by the small size of the statistical population (n=28) and by station W-6, the location of 3 out of the 6 precision sample sets which were out of control. 88% of 20-day BOD matrix spikes were in control (Table 1).

5-day BOD precision was calculated for low levels (concentration is less than 5 times the minimum detection limit of 2 mg/L) and high levels (concentration greater than or equal to 5 times the MDL). Low level 5-day BOD precision was in control 93% of the time, high level 83% of the time (Table 1). Mean precision for both was about 13.5 (Table 3). These results are very encouraging, especially regarding the high level 5-day BOD's: half of the sample sets out of control were CSO's, most likely containing various amounts of sediments and large amounts of solids and organics which would have an effect on analytical results and hence precision. 5-day BOD matrix spikes are not differentiated by high or low concentration levels. The 81% of matrix spike recoveries in control is not to be unexpected since the majority of the spiked samples were low levels: natural samples will often not "seed" well with the spike solution because of their low bacterial populations.

The Quality Control/Quality Assurance department has concluded that the Hackensack River Study database, while deficient in a few respects noted above, is of a satisfactory quality to warrant its approval for submission to the client.

Literature Cited

APHA. 1985. Standard Methods for the Examination of Water and Wastewater. Washington, D.C. 1268 pp.

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Table 1. Evaluation of quality control data for the Hackensack River study, April - November 1988, as number of QC samples out of control (# OTC) and percent of QC samples in contol (% I C), for the Rochester and Hackensack labs. Low and high level 5-day BOD matrix spike utilize the same QC limits.

Rochester lab analytes:

	Precision		Matrix Spikes		Blank Spikes		Ref Stds	
Parameter	# OTC	% I C	# OTC	% I C	# OTC	% I C	# OTC	% I C
Ammonia	74	78	44	88	78	87	22	96
Nitrite	29	90	33	91	121	88	None	None
Nitrate-NO2	55	85	93	76	40	92	63	91
TKN	72	79	70	81	29	95	65	91
OPO4	36	89	68	83	114	78	64	87
TPO4	60	82	132	65	147	74	44	93
Average	54	84	73	81	88	86	52	92

Hackensack lab analytes:

	Precision		Matrix Spikes		Blank Spikes		Ref Stds	
Parameter	# OTC	% I C	# OTC	% I C	# OTC	% I C	# OTC	% I C
BOD-20 day	6	79	2	88	--	--	--	--
BOD-5 day, low level	16	93	57	81	--	--	--	--
BOD-5 day, high level	8	83						
Chlorophyll-a	54	74	--	--	--	--	--	--
Diss. Oxygen	60	80	--	--	--	--	--	--
Fecal Col.	4	96	--	--	--	--	--	--
Salinity	52	82	--	--	--	--	--	--
T. Susp. Solids	101	86	--	--	--	--	25	78
Turbidity	41	88	--	--	--	--	25	73
Average	38	85	30	85	--	--	25	76

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Table 2. Quality control limits utilized in the Hackensack River study, April - November 1988 for the Rochester and Hackensack labs, and the limits calculated using the HRS database only. Low and high level 5-day BOD matrix spikes have the same limits.

Rochester lab analyses:

	Roch. Lab Limits Utilized in QC calcs (b)				New HRS-Generated Limits			
Parameter	Precision	Matrix Spikes	Blank Spikes	Ref Stds	Precision	Matrix Spikes	Blank Spikes	Ref Stds
Ammonia	10	173-127	184-121	186-110	7.6	171-127	182-125	190-110
Nitrite	10	184-118	190-110	None	7.0	186-120	191-114	None
Nitrate-NO2	10	186-112	184-111	188-108	6.7	183-117	184-112	189-109
TKN	30	150-150	144-145	168-124	26	125-162	148-140	164-129
OPO4	18	166-125	168-121	187-107	13	162-136	163-124	185-108
TPO4	20	160-123	172-104	171-123	17	141-132	174-115	182-113

Hackensack lab analyses:

	Limits in QC calcs				New HRS-Generated Limits			
Parameter	Precision	Matrix Spikes	Blank Spikes	Ref Stds	Precision	Matrix Spikes	Blank Spikes	Ref Stds
BOD-20 day	24 a	152 - 131 a	---	---	24	140 -133	---	---
BOD-5 day, low level	40 b	160 - 140 b	---	---	30	142 - 150	---	---
BOD-5 day, high level	15 b	---	---	---	15	---	---	---
Chlorophyll-a	70 a	---	---	---	64	---	---	---
Diss. Oxygen	9.2 a	---	---	---	8.2	---	---	---
Fecal Col.	0.98 c	---	---	---	0.83	---	---	---
Salinity	9.5 a	---	---	---	6.6	---	---	---
T. Susp. Solids	31.7 b	---	---	170 - 122 b	28	---	---	168 - 124
Turbidity	20 a	---	---	178 - 107 a	16	---	---	176 - 108

a = QC limits derived from April HRS data
b = QC limits derived from Rochester lab data, Jan.-June 1988
c = QC limits calculated according to APHA (1985) logarithmic method.

Table 3. Evaluation of quality control data for the Hackensack River study, April - November 1988, as mean and standard deviation of the 4 QC types used at the Rochester and Hackensack labs.

Rochester lab analytes:

Parameter	n	Mean Precision	Mean Std Dev	n	Mean Matrix Spike % Recovery	Mean Std Dev	n	Mean Blank Spike % Recovery	Mean Std Dev	n	Mean Ref Stds % Recovery	Mean Std Dev
Ammonia	343	9.1	19	369	101	61.0	612	113	59.0	612	98.1	12.0
Nitrite	305	5.5	14	374	104	18.0	1019	103	18.0	None	None	None
Nitrate-NO2	369	7.4	19	381	107	53.0	508	99.1	32.0	692	97.2	14.0
TKN	344	22	27	376	95.3	71.0	540	94.3	27.0	751	93.5	19.0
OPO4	316	8.7	18	392	98.8	36.0	517	83.2	35.0	500	90.5	22.0
TPO4	334	13	20	378	80.4	44.0	569	95.1	25.0	631	90.9	24.0
Average	335	11	20	378	97.8	47.2	628	98.0	32.7	637	94	18.2

Hackensack lab analytes:

Parameter	n	Mean Precision	Mean Std Dev	n	Mean Matrix Spike % Recovery	Mean Std Dev	n	Mean Blank Spike % Recovery	Mean Std Dev	n	Mean Ref Stds % Recovery	Mean Std Dev
BOD-20 day	28	16	13	17	79.5	25.0	None	None	None	None	None	None
BOD-5 day, low level	230	14	19	270	90.8	31.9	None	None	None	None	None	None
BOD-5 day, high level	46	13	23	---	---	---	---	---	---	---	---	---
Chlorophyll-a	211	50	51	None	None	None	None	None	None	None	None	None
Diss. Oxygen	307	7.4	15	None	None	None	None	None	None	None	None	None
Fecal Col.	93	59	48	None	None	None	None	None	None	None	None	None
Salinity	295	5.1	14	None	None	None	None	None	None	None	None	None
T. Susp. Solids	713	16	18	None	None	None	None	None	None	115	98.9	26.7
Turbidity	346	10	31	None	None	None	None	None	None	94	106	31.3
Average	252	21	26	144	85.2	28.5	0	0.0	0	105	102	29

Hackensack River Study
Percent of Analyses in Control
April, July, Aug., Oct., Nov., 1988

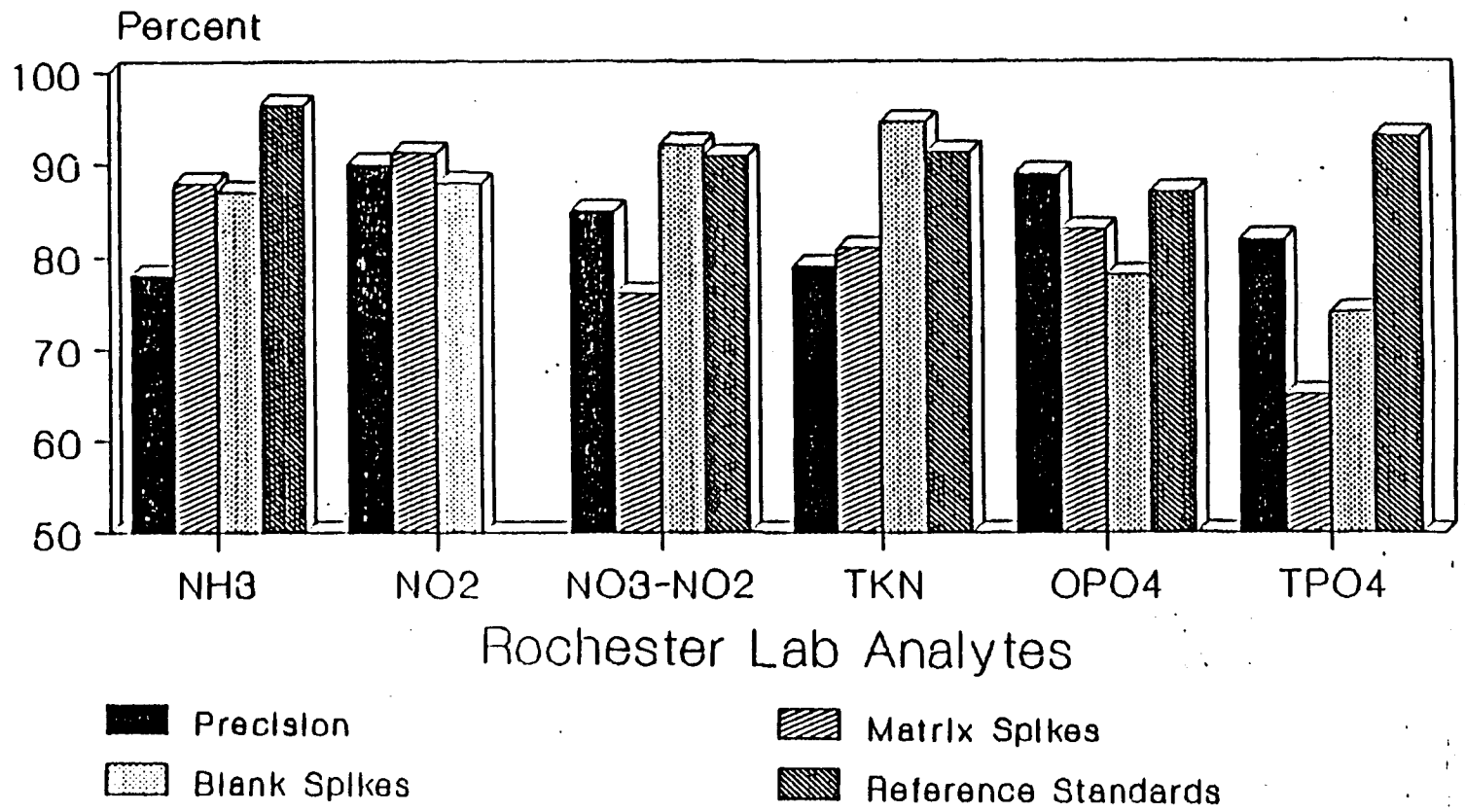

Figure 1.

Hackensack River Study
Percent of Analyses in Control
April, July, Aug., Oct., Nov., 1988

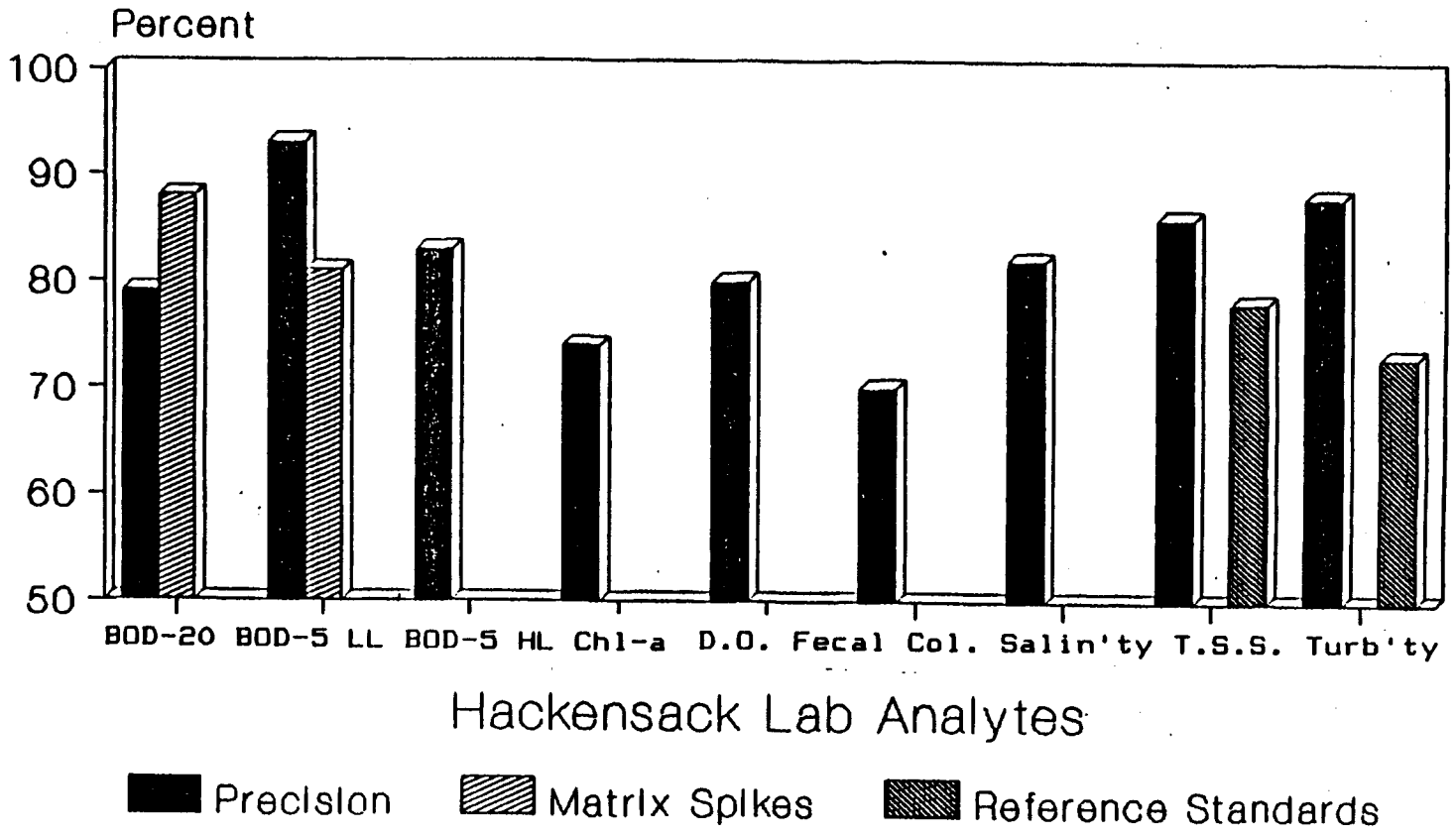

Figure 2

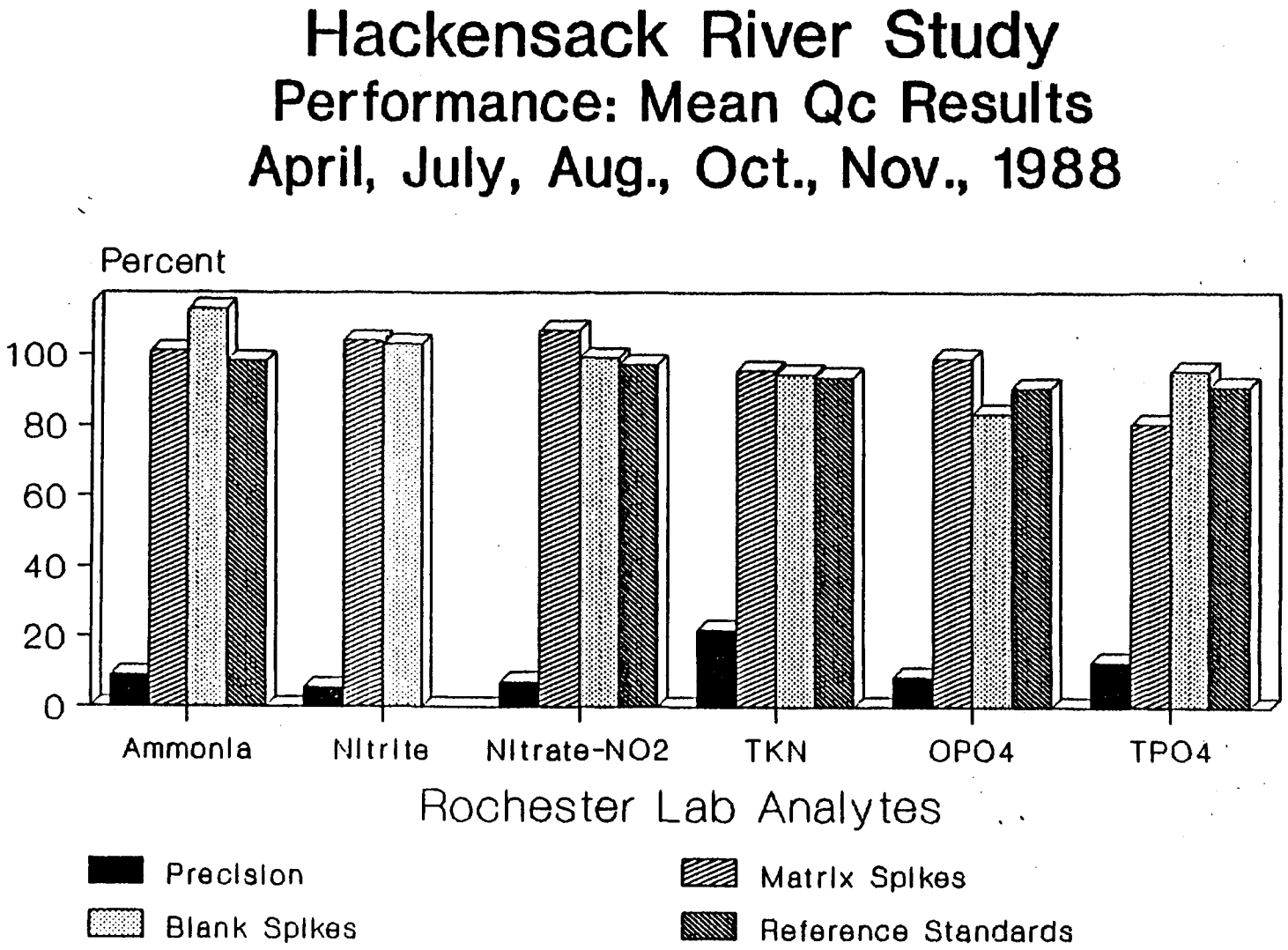
Hackensack River Study
Performance: Mean Qc Results
April, July, Aug., Oct., Nov., 1988
Percent
100
80
60
40
20
0
Ammonia
Nitrite
Nitrate-NO2
TKN
OPO4
TPO4
Rochester Lab Analytes
Precision
Blank Spikes
Matrix Spikes
Reference Standards

Figure 3.

Hackensack River Study
Performance: Mean QC Results
April, July, Aug., Oct., Nov., 1988

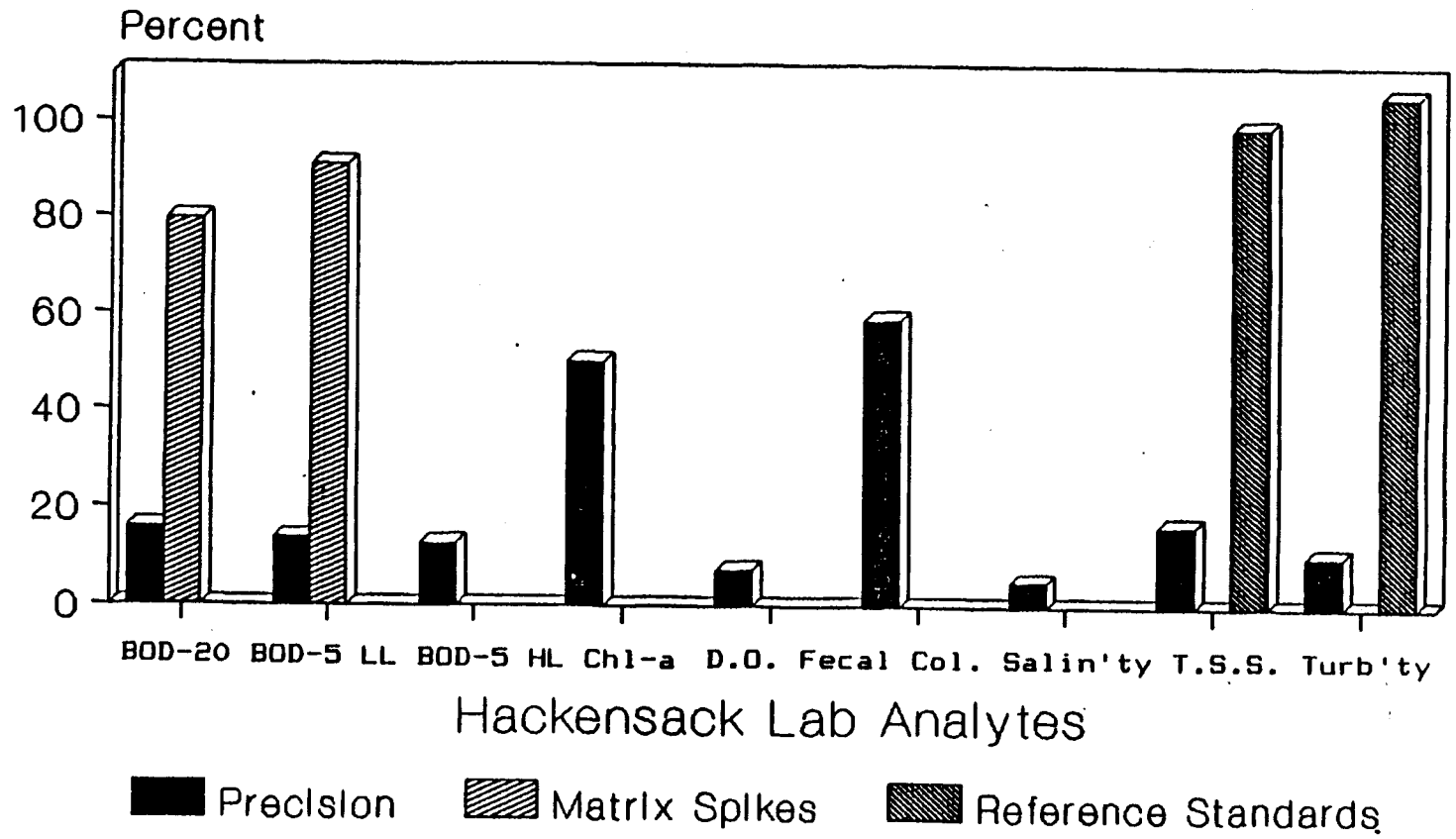

Figure 4.

General Testing Corporation

SUMMARY OF QUALITY CONTROL DATA

Section	Description
1	Quality Control Data - Ammonia
2	Quality Control Data - BOD5
3	Quality Control Data - BOD20
4	Quality Control Data - Chlorophyll-a
5	Quality Control Data - Dissolved
6	Quality Control Data - Fecal
7	Quality Control Data - Nitrate-Nitrite
8	Quality Control Data - Nitrite
9	Quality Control Data - T.K. Nitrogen
10	Quality Control Data - Orthophosphate
11	Quality Control Data - Salinity
12	Quality Control Data - Total Phosphate
13	Quality Control Data - Total Suspended Solids
14	Quality Control Data - Turbidity

General Testing Corporation

Section 1

Quality Control Data

Hackensack River Study

Ammonia Analysis

GTC LABORATORY QUALITY CONTROL REPORT

CUSTOMER: Clinton Bogart JOB#: Hackensack River Study PARAMETER: AMMONIA
SAMPLING EVENT: APRIL 1988 UNITS: mg/l

		PRECISION DUPLICATES (Accept. Limits: 10)				MATRIX SPIKES (Accept. Limits: 73 - 127)				BLANK SPIKES (Accept. Limits: 84 - 121)				REFERENCE STANDARDS (Accept. Limits: 86 - 110)			
DATE SAMPLED	SAMPLE# NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. #	KNOWN VALUE	% REC.	WITHIN LIMITS
4/12/88	13	0.85	0.85	0.400	Y	0.65	0.25	92.0	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/12/88	20	<0.050	0.06	NC	---	0.06	0.25	100	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/12/88	43	0.050	0.05	NC	---	<0.050	0.25	106	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/12/88	66	0.78	0.77	1.30	Y	0.77	0.25	89.0	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/12/88	71	0.89	0.90	1.30	Y	0.89	0.25	95.0	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/13/88	90	1.09	1.05	3.70	Y	1.07	0.25	84.0	Y	<0.050	0.25	104	Y	REF STD	1.80	100	Y
4/13/88	112	1.23	1.20	2.50	Y	1.22	0.25	94.0	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	138	1.26	1.27	0.80	Y	0.13	0.26	105	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	139	1.35	1.38	2.20	Y	0.14	0.25	102	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	157	2.30	2.32	0.900	Y	0.23	0.25	99.0	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	158	2.32	2.30	0.900	Y	0.23	0.25	100	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	175	2.36	2.45	3.70	Y	0.24	0.25	106	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	176	2.31	2.30	0.400	Y	0.23	0.25	104	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	195	1.38	1.29	6.800	Y	1.28	0.25	112	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	196	1.28	1.22	4.80	Y	1.25	0.25	84.0	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	208	1.16	1.15	0.900	Y	1.16	0.25	112	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/13/88	209	1.16	1.15	0.900	Y	1.16	0.25	114	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/14/88	228	2.22	2.23	0.400	Y	0.22	0.25	103	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/14/88	229	2.16	2.06	0.000	Y	0.22	0.25	100	Y	<0.050	0.25	100	Y	REF STD	1.80	100	Y
4/14/88	241	2.49	2.48	0.300	Y	2.48	0.25	96.0	Y	<0.050	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	242	2.34	2.37	1.30	Y	2.37	0.25	98.0	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	260	1.47	1.49	0.100	Y	1.49	0.25	104	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	269	<0.05	<0.05	NC	---	<0.05	0.25	104	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	290	<0.05	<0.05	NC	---	<0.05	0.25	104	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	305	<0.05	<0.05	NC	---	<0.05	0.25	113	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	319	<0.05	<0.05	NC	---	<0.05	0.25	101	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/14/88	338	<0.05	<0.05	NC	---	<0.05	0.25	119	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/15/88	364	<0.05	<0.05	NC	---	<0.05	0.25	110	Y	<0.05	0.25	103	Y	REF STD	1.80	100	Y
4/15/88	377	<0.05	<0.05	NC	---	<0.05	0.25	106	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	396	0.05	<0.05	NC	---	<0.05	0.25	115	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	402	1.95	1.95	0.200	Y	1.95	0.25	102	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	403	1.82	2.59	35.1	IN	2.59	0.25	69.0	IN	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	427	2.48	2.49	0.500	Y	2.49	0.25	101	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	428	2.41	2.36	1.90	Y	2.36	0.25	88.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/15/88	442	3.88	3.87	0.100	Y	3.87	0.25	101	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/15/88	443	3.37	3.37	0.200	Y	3.37	0.25	104	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/15/88	461	2.65	2.67	0.600	Y	2.67	0.25	105	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/15/88	462	2.74	2.74	0.200	Y	2.74	0.25	104	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/15/88	474	2.17	2.18	0.200	Y	2.18	0.25	109	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/15/88	475	2.13	2.13	0.400	Y	2.13	0.25	108	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/16/88	493	2.53	2.54	0.200	Y	2.54	0.25	106	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/16/88	494	2.46	2.45	0.500	Y	2.45	0.25	105	Y	<0.05	0.25	95.0	Y	REF STD	1.80	101	Y
4/16/88	510	0.37	0.36	4.10	Y	0.36	0.25	94.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	511	0.26	0.26	0.500	Y	0.26	0.25	100	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y

AMMONIA EVENT 4/88		PRECISION DUPLICATES Accept. Limits: 10				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE SAMPLED	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. DIFFERENCE	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. #	KNOWN VALUE	% REC.	WITHIN LIMITS
4/16/88	587	0.23	0.29	23.8	IN	0.26	0.25	85.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	588	0.23	0.29	23.8	IN	0.26	0.25	85.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	589	0.22	0.23	2.50	Y	0.26	0.25	84.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	595	0.45	0.41	8.80	Y	0.43	0.25	90.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	598	0.38	0.41	6.40	Y	0.39	0.25	156	IN	0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	599	0.25	0.25	10.000	Y	0.25	0.25	99.0	Y	<0.05	0.25	101	Y	REF STD	1.80	100	Y
4/16/88	605	0.34	0.33	11.7	IN	0.35	0.25	96.0	Y	<0.05	0.25	101	Y	REF STD	1.80	99.0	Y
4/16/88	608	0.42	0.42	10.000	Y	0.42	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	99.0	Y
4/16/88	614	0.26	0.26	10.900	Y	0.26	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	99.0	Y
4/16/88	619	0.21	0.21	1.40	Y	0.21	0.25	93.0	Y	<0.05	0.25	100	Y	REF STD	1.80	99.0	Y
4/17/88	639	0.20	0.26	16.5	IN	0.22	0.25	104	Y	<0.05	0.25	100	Y	REF STD	1.80	99.0	Y
4/17/88	651	0.19	0.17	11.1	IN	0.18	0.25	89.0	Y	0.05	0.25	100	Y	REF STD	1.80	99.0	Y
4/17/88	667	0.16	0.19	15.5	IN	0.17	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	97.0	Y
4/17/88	670	0.32	0.32	10.600	Y	0.32	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	0.80	97.0	Y
4/17/88	710	0.47	0.47	10.200	Y	0.47	0.25	106	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	711	0.45	0.45	10.700	Y	0.45	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	721	0.59	0.59	10.500	Y	0.59	0.25	99.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	722	0.58	0.56	10.500	Y	0.57	0.25	93.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	731	0.44	0.43	2.30	Y	0.44	0.25	100	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	742	0.49	0.48	1.70	Y	0.48	0.25	96.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	743	0.47	0.49	3.60	Y	0.48	0.25	101	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	748	0.89	0.91	2.20	Y	0.09	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	755	0.35	0.35	3.90	Y	0.36	0.25	100	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/17/88	756	0.34	0.36	3.20	Y	0.35	0.25	101	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	774	0.38	0.37	2.10	Y	0.30	0.25	97.0	Y	0.05	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	775	0.35	0.36	2.00	Y	0.36	0.25	99.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	787	0.53	0.53	10.600	Y	0.53	0.25	90.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	788	0.52	0.53	2.70	Y	0.53	0.25	NC	---	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	806	0.52	0.53	1.50	Y	0.53	0.25	97.0	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	807	0.52	0.52	10.200	Y	0.52	0.25	98.0	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	813	0.07	0.06	7.80	Y	0.06	0.25	107	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	827	0.15	0.15	10.700	Y	0.15	0.25	102	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	857	0.06	0.06	1.70	Y	0.06	0.25	102	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	862	0.06	0.06	3.30	Y	0.06	0.25	101	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/18/88	905	0.10	0.12	14.7	IN	0.12	0.25	101	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/19/88	935	0.15	0.14	2.70	Y	0.14	0.25	102	Y	<0.50	0.25	100	Y	REF STD	1.80	100	Y
4/19/88	940	0.05	<0.05	NC	---	<0.05	0.25	115	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	952	0.05	<0.05	NC	---	<0.05	0.25	117	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	979	5.45	5.42	1.30	Y	0.54	0.25	107	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	980	5.19	5.18	10.100	Y	0.52	0.25	102	Y	<0.05	0.25	100	Y	REF STD	1.80	84.0	Y
4/19/88	998	4.92	4.95	10.600	Y	0.50	0.25	97.0	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	999	4.79	4.73	1.30	Y	0.47	0.25	102	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	1017	4.39	4.37	10.500	Y	0.44	0.25	100	Y	<0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	1018	4.38	4.36	10.500	Y	0.44	0.25	100	Y	0.05	0.25	100	Y	REF STD	1.80	95.0	Y
4/19/88	1037	4.93	5.04	2.20	Y	0.043	0.25	106	Y	<0.05	0.25	105	Y	REF STD	1.80	99.0	Y
4/19/88	1038	4.69	5.43	14.6	IN	5.43	0.25	100	Y	<0.05	0.25	105	Y	REF STD	1.80	99.0	Y
4/19/88	1050	6.03	5.93	1.70	Y	5.93	0.25	100	Y	0.05	0.25	105	Y	REF STD	1.80	99.0	Y
4/19/88	1051	6.01	5.62	6.40	Y	5.62	0.25	101	Y	<0.05	0.25	105	Y	REF STD	1.80	99.0	Y
4/19/88	1069	3.34	5.58	50.2	IN	5.50	0.25	102	Y	<0.05	0.25	105	Y	REF STD	1.80	99.0	Y
4/19/88	1070	5.54	5.53	10.200	Y	5.53	0.25	101	Y	<0.05	0.25	105	Y	REF STD	1.80	99.0	Y

AMMONIA (WATER 4/88)	PRECISION DUPLICATES Accept. Limits: 10				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE SAMPLED	SAMPLE ID NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. #	KNOWN VALUE	% REC.	WITHIN LIMITS
4/20/88	1062	6.15	6.18	0.500	Y	6.18	0.25	109	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1083	6.15	6.09	1.00	Y	6.09	0.25	96.0	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1103	4.67	4.03	14.7	IN	4.08	0.25	102	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1104	4.08	4.06	0.500	Y	4.08	0.25	100	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1105	1.37	1.42	1.40	Y	1.42	0.25	98.0	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1115	2.53	2.45	3.20	Y	2.45	0.25	97.0	Y	<0.05	0.25	94.0	Y	REF STD	0.80	100	Y
4/20/88	1145	1.90	2.12	10.9	IN	2.12	0.25	105	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1159	0.70	0.78	10.8	IN	0.78	0.25	93.0	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/20/88	1173	1.51	1.52	0.700	Y	1.52	0.25	88.0	Y	<0.05	0.25	94.0	Y	REF STD	1.80	100	Y
4/21/88	1191	3.07	3.42	NC	Y	3.418	0.250	104	Y	<0.05	0.250	94.0	Y	REF STD	1.80	100	Y
4/21/88	1219	0.23	0.24	2.10	Y	0.24	0.25	102	Y	<0.05	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1239	0.10	0.10	3.00	Y	0.10	0.25	86.0	Y	<0.05	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1254	<0.05	<0.05	NC	---	<0.05	0.25	95.0	Y	<0.50	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1273	<0.05	<0.05	NC	---	<0.05	0.25	95.0	Y	<0.05	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1286	0.05	0.06	NC	---	0.63	0.25	98.0	Y	<0.50	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1300	0.61	0.57	6.80	Y	0.57	0.25	100	Y	0.50	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1321	0.07	0.08	6.80	Y	0.08	0.25	101	Y	<0.05	0.25	99.0	Y	REF STD	1.80	99.0	Y
4/21/88	1340	0.09	0.09	1.10	Y	0.09	0.25	116	Y	<0.05	0.25	100	Y	REF STD	1.80	97.0	Y
4/21/88	1361	0.11	0.08	37.9	IN	0.08	0.25	102	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y
4/21/88	1382	0.08	0.07	13.1	IN	0.07	0.25	98.0	Y	<0.05	0.25	100	Y	REF STD	1.80	100	Y

GTC LABORATORY QUALITY CONTROL REPORT

CUSTOMER: Clinton Bogart JOB#: Hackensack River Study PARAMETER: AMMONIA REPORT TYPE: JOB SPECIFIC QC
SAMPLING EVENT: JULY 1988 UNITS: mg/l

		PRECISION DUPLICATES Accept. Limits: 10.0				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/13/88	5	0.94	0.95	0.950	Y	0.95	0.25	103	Y	< 0.051	0.25	105	Y	Ref Std	1.80	98.4	Y
7/13/88	16	1.04	1.04	0.192	Y	1.04	0.25	94.4	Y	< 0.051	0.25	106	Y	Ref Std	1.80	99.6	Y
7/13/88	24	0.96	0.96	0.938	Y	0.96	0.25	93.0	Y	< 0.051	0.25	108	Y	Ref Std	1.80	99.4	Y
7/13/88	37	1.03	1.05	2.31	Y	1.04	0.25	98.4	Y	< 0.051	0.25	112	Y	Ref Std	1.80	99.2	Y
7/13/88	55	1.06	1.04	1.81	Y	1.05	0.25	93.4	Y	< 0.051	0.25	116	Y	Ref Std	1.80	97.2	Y
7/13/88										< 0.051	0.25	122	IN	Ref Std	1.80	97.3	Y
7/13/88										< 0.051	0.25	115	Y	Ref Std	1.80	100	Y
7/13/88										< 0.051	0.25	119	Y	Ref Std	1.80	99.2	Y
7/13/88														Ref Std	1.80	98.9	Y
7/13/88														Ref Std	1.80	99.3	Y
7/13/88														Ref Std	1.80	99.9	Y
7/13/88														Ref Std	1.80	99.4	Y
7/14/88	86	0.86	0.84	3.29	Y	0.85	0.25	87.6	Y	< 0.051	0.25	99.6	Y	Ref Std	1.80	97.2	Y
7/14/88	159	0.94	1.65	54.9	IN	1.30	2.50	116	Y	< 0.051	0.25	100	Y	Ref Std	1.80	97.6	Y
7/14/88	218	4.93	4.99	1.11	Y	4.96	2.50	81.7	Y	< 0.051	0.25	97.2	Y	Ref Std	1.80	96.9	Y
7/14/88	225	4.34	4.30	1.02	Y	4.32	2.50	99.8	Y	< 0.051	0.25	95.2	Y	Ref Std	1.80	97.2	Y
7/14/88	226	4.06	4.15	2.02	Y	4.11	2.50	99.0	Y	< 0.051	0.25	94.4	Y	Ref Std	1.80	97.1	Y
7/14/88	249	4.25	4.30	1.29	Y	4.27	2.50	1.66	IN	< 0.051	0.25	102	Y	Ref Std	1.80	97.4	Y
7/14/88	262	5.96	5.87	1.42	Y	5.92	2.50	97.3	Y	< 0.051	0.25	101	Y	Ref Std	1.80	97.3	Y
7/14/88	263	5.65	5.76	1.91	Y	5.70	2.50	99.5	Y	< 0.051	0.25	100	Y	Ref Std	1.80	99.1	Y
7/14/88	250	4.26	4.15	2.62	Y	4.20	2.50	90.0	Y	< 0.051	0.25	103	Y	Ref Std	1.80	95.6	Y
7/14/88										< 0.051	0.25	103	Y	Ref Std	1.80	96.8	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	97.4	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	97.4	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	97.2	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	98.0	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	96.3	Y
7/14/88										< 0.051	0.25	110	Y	Ref Std	1.80	98.5	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	98.3	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	97.3	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	98.9	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	98.3	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	98.7	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	100	Y
7/14/88										< 0.051	0.25	110	Y	Ref Std	1.80	100	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	98.6	Y
7/14/88										< 0.051	0.25	115	Y	Ref Std	1.80	98.7	Y
7/14/88										< 0.051	0.25	111	Y	Ref Std	1.80	98.8	Y
7/14/88										< 0.051	0.25	110	Y	Ref Std	1.80	98.2	Y
7/14/88										< 0.051	0.25	114	Y	Ref Std	1.80	98.9	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	99.2	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	99.1	Y
7/14/88										< 0.051	0.25	111	Y	Ref Std	1.80	99.3	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	100	Y

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AMMONIA EVENT: 7/88		PRECISION DUPLICATES Accept. Limits: 10.0				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/14/88										< 0.051	0.25	116	Y	Ref Std	1.80	99.8	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	102	Y
7/14/88										< 0.051	0.25	115	Y	Ref Std	1.80	102	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	91.1	Y
7/14/88										< 0.051	0.25	109	Y	Ref Std	1.80	100.1	Y
7/14/88										< 0.051	0.25	113	Y	Ref Std	1.80	99.8	Y
7/14/88										< 0.051	0.25	112	Y	Ref Std	1.80	96.9	Y
7/14/88										< 0.051	0.25	110	Y	Ref Std	1.80	100	Y
7/14/88										< 0.051	0.25	111	Y	Ref Std	1.80	99.9	Y
7/14/88										< 0.051	0.25	113	Y	Ref Std	1.80	97.2	IN
7/14/88										< 0.051	0.25	117	Y	Ref Std	1.80	102	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	104	Y
7/14/88										< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/14/88										< 0.051	0.25	103	Y	Ref Std	1.80	102	Y
9/6/88	369	1.17	1.18	1.02	Y	1.18	0.25	78.0	Y	< 0.051	0.25	98.0	Y	Ref Std	1.80	100	Y
9/6/88	382	0.61	0.50	20.1	IN	0.55	0.25	123	Y	< 0.051	0.25	100	Y	Ref Std	1.80	98.1	Y
9/6/88	383	0.62	0.30	69.0	IN	0.46	0.25	72.4	IN	< 0.051	0.25	98.0	Y	Ref Std	1.80	98.3	Y
9/6/88	384	0.60	0.59	1.86	Y	0.59	0.25	104	Y	< 0.051	0.25	98.8	Y	Ref Std	1.80	98.4	Y
9/6/88										< 0.051	0.25	97.6	Y	Ref Std	1.80	97.5	Y
9/6/88										< 0.051	0.25	96.8	Y	Ref Std	1.80	101	Y
9/6/88										< 0.051	0.25	98.0	Y	Ref Std	1.80	>110	IN
9/6/88										< 0.051	0.25	107	Y	Ref Std	1.80	101	Y
9/6/88										< 0.051	0.25	101	Y	Ref Std	1.80	103	Y
9/6/88														Ref Std	1.80	97.6	Y
9/6/88														Ref Std	1.80	99.8	Y
9/6/88														Ref Std	1.80	102	Y
9/6/88														Ref Std	1.80	102	Y
7/15/88	367	0.74	0.74	0.136	Y	0.74	0.25	91.8	Y	< 0.051	0.25	102	Y	Ref Std	1.80	95.6	Y
7/15/88	397	0.64	0.63	1.26	Y	0.63	0.25	87.6	Y	< 0.051	0.25	95.6	Y	Ref Std	1.80	95.4	Y
7/15/88	394	1.44	1.05	30.8	IN	1.24	0.25	163	IN	< 0.051	0.25	93.2	Y	Ref Std	1.80	90.4	Y
7/15/88	407	0.41	0.44	7.04	Y	0.43	0.25	133	IN	< 0.051	0.25	89.6	Y	Ref Std	1.80	90.5	Y
7/15/88	420	1.94	1.93	0.206	Y	1.95	2.50	104.2	Y	< 0.051	0.25	91.2	Y	Ref Std	1.80	87.6	Y
7/15/88	421	1.93	1.92	0.936	Y	1.92	2.50	103	Y	< 0.051	0.25	92.0	Y	Ref Std	1.80	88.3	Y
7/15/88	438	1.43	1.48	3.78	Y	1.45	0.25	106	Y	< 0.051	0.25	105	Y	Ref Std	1.80	99.9	Y
7/15/88	439	1.36	1.31	3.30	Y	1.33	2.50	102	Y	< 0.051	0.25	103	Y	Ref Std	1.80	100.3	Y
7/15/88	451	2.05	1.86	10.0	IN	1.95	2.50	101	Y	< 0.051	0.25	104	Y	Ref Std	1.80	99.3	Y
7/15/88	452	1.74	2.07	16.9	IN	1.90	2.50	6.84	IN	< 0.051	0.25	98.8	Y	Ref Std	1.80	96.2	Y
7/15/88	471	2.57	2.43	5.51	Y	2.50	2.50	99.0	Y	< 0.051	0.25	101	Y	Ref Std	1.80	94.4	Y
7/15/88	472	1.83	1.97	7.36	Y	1.90	2.50	103	Y	< 0.051	0.25	102	Y	Ref Std	1.80	97.7	Y
7/15/88	486	1.87	1.83	2.49	Y	1.85	2.50	90.4	Y	< 0.051	0.25	114	Y	Ref Std	1.80	102	Y
7/15/88	487	3.92	4.01	2.12	Y	3.97	2.50	198	IN	< 0.051	0.25	110	Y	Ref Std	1.80	99.9	Y
7/15/88										< 0.051	0.25	109	Y	Ref Std	1.80	101	Y
7/15/88										< 0.051	0.25	110	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	115	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	114	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	116	Y	Ref Std	1.80	108	Y
7/15/88										< 0.051	0.25	113	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	114	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	103	Y	Ref Std	1.80	102	Y
7/15/88										< 0.051	0.25	105	Y	Ref Std	1.80	103	Y

AMMONIA
EVENT: 7/88

DATE OF ANALYSIS	SAMPLE NUMBER	PRECISION DUPLICATES - Accept. Limits: 10.0				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
		ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/15/88										< 0.051	0.25	105	Y	Ref Std	1.80	103	Y
7/15/88										< 0.051	0.25	110	Y	Ref Std	1.80	105	Y
7/15/88										< 0.051	0.25	120	Y	Ref Std	1.80	104	Y
7/15/88										< 0.051	0.25	105	Y	Ref Std	1.80	103	Y
7/16/88	505	5.32	5.27	1.04	Y	5.29	2.50	N C	—	< 0.051	0.25	99.2	Y	Ref Std	1.80	98.8	Y
7/16/88	509	1.92	1.80	6.62	Y	1.86	2.50	95.5	Y	< 0.051	0.25	99.2	Y	Ref Std	1.80	98.8	Y
7/16/88	510	1.77	2.38	29.3	IN	2.08	2.50	81.6	Y	< 0.051	0.25	100	Y	Ref Std	1.80	98.9	Y
7/16/88	514	4.97	4.95	0.383	Y	4.96	2.50	95.5	Y	< 0.051	0.25	101	Y	Ref Std	1.80	99.4	Y
7/16/88	527	2.91	2.74	6.02	Y	2.82	2.50	94.5	Y	< 0.051	0.25	99.6	Y	Ref Std	1.80	99.2	Y
7/16/88	528	2.55	2.65	4.04	Y	2.60	2.50	91.7	Y	< 0.051	0.25	102	Y	Ref Std	1.80	100	Y
7/16/88	535	0.92	0.91	0.438	Y	0.91	0.25	86.4	Y	< 0.051	0.25	108	Y	Ref Std	1.80	100	Y
7/16/88	546	2.55	2.64	3.51	Y	2.59	2.50	2.66	IN	< 0.051	0.25	104	Y	Ref Std	1.80	101	Y
7/16/88	547	2.62	2.37	9.93	Y	2.50	2.50	95.9	Y	< 0.051	0.25	106	Y	Ref Std	1.80	101	Y
7/16/88	561	1.60	1.51	5.72	Y	1.56	2.50	98.3	Y	< 0.051	0.25	106	Y	Ref Std	1.80	101	Y
7/16/88	562	1.65	1.57	5.04	Y	1.61	2.50	97.4	Y	< 0.051	0.25	111	Y	Ref Std	1.80	102	Y
7/16/88	581	1.94	1.81	6.51	Y	1.87	2.50	87.2	Y	< 0.051	0.25	112	Y	Ref Std	1.80	102	Y
7/16/88	582	1.65	1.70	3.28	Y	1.67	2.50	88.9	Y	< 0.051	0.25	114	Y	Ref Std	1.80	107	Y
7/16/88	589	0.23	0.21	10.4	IN	0.22	0.25	92.2	Y	< 0.051	0.25	110	Y	Ref Std	1.80	102	Y
7/16/88	605	0.18	0.18	0.557	Y	0.18	0.25	97.4	Y	< 0.051	0.25	111	Y	Ref Std	1.80	103	Y
7/16/88						N C	2.50	88.9	Y	< 0.051	0.25	432	IN	Ref Std	1.80	34.4	IN
7/16/88										< 0.051	0.25	123	IN	Ref Std	1.80	106	Y
7/16/88										< 0.051	0.25	122	IN	Ref Std	1.80	104	Y
7/16/88										< 0.051	0.25	121	Y	Ref Std	1.80	104	Y
7/16/88										< 0.051	0.25	126	IN	Ref Std	1.80	0.00	IN
7/16/88										< 0.051	0.25	124	IN	Ref Std	1.80	104	Y
7/16/88										< 0.051	0.25	126	IN	Ref Std	1.80	104	Y
7/16/88										< 0.051	0.25	126	IN	Ref Std	1.80	105	Y
7/16/88														Ref Std	1.80	105	Y
7/17/88	626	0.12	0.11	6.11	Y	0.11	0.25	93.0	Y	< 0.051	0.25	88.8	Y	Ref Std	1.80	99.7	Y
7/17/88	631	1.13	13.30	169	IN	7.21	2.50	388	IN	< 0.051	0.25	110	Y	Ref Std	1.80	98.1	Y
7/17/88	633	1.91	1.12	52.5	IN	1.51	2.50	16.1	IN	< 0.051	0.25	92.4	Y	Ref Std	1.80	96.0	Y
7/17/88	640	1.13	1.17	4.00	Y	1.15	0.25	86.8	Y	< 0.051	0.25	103	Y	Ref Std	1.80	94.9	Y
7/17/88	653	2.32	1.49	44.1	IN	1.90	2.50	73.0	Y	< 0.051	0.25	97.2	Y	Ref Std	1.80	>110	IN
7/17/88	675	0.29	0.31	8.99	Y	0.30	0.25	85.0	Y	< 0.051	0.25	109	Y	Ref Std	1.80	57.8	IN
7/17/88										< 0.051	0.25	96.0	Y	Ref Std	1.80	91.0	Y
7/17/88														Ref Std	1.80	92.1	Y
7/17/88														Ref Std	1.80	42.7	IN
7/17/88														Ref Std	1.80	>110	IN
7/18/88	699	0.45	0.43	6.38	Y	0.44	0.25	90.4	Y	< 0.051	0.25	101	Y	Ref Std	1.80	100	Y
7/18/88	633	Ovrfng	1.25	IN C	—	0.63	0.25	350	IN	< 0.051	0.25	108	Y	Ref Std	1.80	100	Y
7/18/88	653	2.59	1.71	40.9	IN	2.15	2.50	86.1	Y	< 0.051	0.25	103	Y	Ref Std	1.80	99.4	Y
7/18/88	661	0.31	0.27	14.0	IN	0.29	0.25	90.4	Y	< 0.051	0.25	116	Y	Ref Std	1.80	100	Y
7/18/88										< 0.051	0.25	108	Y	Ref Std	1.80	102	Y
7/18/88														Ref Std	1.80	101	Y
7/18/88														Ref Std	1.80	102	Y
7/19/88	711	0.49	0.45	8.24	Y	0.47	0.25	90.6	Y	< 0.051	0.25	101	Y	Ref Std	1.80	97.9	Y
7/19/88	726	0.26	0.23	13.2	IN	0.24	0.25	86.8	Y	< 0.051	0.25	107	Y	Ref Std	1.80	99.6	Y
7/19/88	742	0.22	0.17	26.5	IN	0.20	0.25	80.4	Y	< 0.051	0.25	102	Y	Ref Std	1.80	97.6	Y
7/19/88	757	1.02	Ovrfng	IN C	—	0.51	0.25	******	IN	< 0.051	0.25	106	Y	Ref Std	1.80	98.7	Y
7/19/88	813	3.94	3.93	0.306	Y	3.93	2.50	98.5	Y	< 0.051	0.25	109	Y	Ref Std	1.80	99.2	Y

AMMONIA
EVENT: 7/88

		PRECISION DUPLICATES				MATRIX SPIKES				BLANK SPIKES				REFERENCE STANDARDS			
		Accept. Limits: 10.0				Accept. Limits: 73 - 127				Accept. Limits: 84 - 121				Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/19/88	814	3.88	3.91	0.565	Y	3.89	2.50	99.8	Y	< 0.051	0.25	112	Y	Ref Std	1.80	99.4	Y
7/19/88	832	4.50	4.46	0.803	Y	4.48	2.50	101	Y	< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/19/88	833	4.25	4.26	0.118	Y	4.25	2.50	96.7	Y	< 0.051	0.25	114	Y	Ref Std	1.80	99.8	Y
7/19/88	858	2.38	2.59	8.38	Y	2.48	2.50	108	Y	< 0.051	0.25	108	Y	Ref Std	1.80	98.6	Y
7/19/88	859	3.74	2.56	37.6	IN	3.15	2.50	77.7	Y	< 0.051	0.25	113	Y	Ref Std	1.80	98.3	Y
7/19/88	871	2.89	2.93	1.44	Y	2.91	2.50	104	Y	< 0.051	0.25	120	Y	Ref Std	1.80	101	Y
7/19/88	872	2.84	2.86	0.702	Y	2.85	2.50	100	Y	< 0.051	0.25	384	IN	Ref Std	1.80	100	Y
7/19/88	884	4.20	4.00	4.83	Y	4.10	2.50	0.320	IN	< 0.051	0.25	120	Y	Ref Std	1.80	99.3	Y
7/19/88	885	3.89	3.81	2.02	Y	3.85	2.50	0.88	IN	< 0.051	0.25	276	IN	Ref Std	1.80	100	Y
7/19/88	948	3.04	2.87	5.82	Y	2.96	2.50	97.0	Y	< 0.051	0.25	128	IN	Ref Std	1.80	101	Y
7/19/88	949	2.95	3.12	5.77	Y	3.03	2.50	115	Y	< 0.051	0.25	222	IN	Ref Std	1.80	100	Y
7/19/88										< 0.051	0.25	128	IN	Ref Std	1.80	101	Y
7/19/88										< 0.051	0.25	185	IN	Ref Std	1.80	102	Y
7/19/88										< 0.051	0.25	127	IN	Ref Std	1.80	99.4	Y
7/19/88										< 0.051	0.25	157	IN	Ref Std	1.80	102	Y
7/19/88										< 0.051	0.25	128	IN	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	115	Y	Ref Std	1.80	101	Y
7/19/88										< 0.051	0.25	114	Y	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	122	IN	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	119	Y	Ref Std	1.80	100	Y
7/19/88										< 0.051	0.25	276	IN	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	121	Y	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	130	IN	Ref Std	1.80	102	Y
7/19/88										< 0.051	0.25	123	IN	Ref Std	1.80	102	Y
7/19/88										< 0.051	0.25	131	IN	Ref Std	1.80	103	Y
7/19/88										< 0.051	0.25	126	IN	Ref Std	1.80	102	Y
7/19/88														Ref Std	1.80	102	Y
7/19/88														Ref Std	1.80	105	Y
7/19/88														Ref Std	1.80	103	Y
7/19/88														Ref Std	1.80	104	Y
7/19/88														Ref Std	1.80	0.00	IN
7/19/88														Ref Std	1.80	104	Y
7/19/88														Ref Std	1.80	4	IN
7/19/88														Ref Std	1.80	104	Y
7/19/88														Ref Std	1.80	104	Y
7/19/88														Ref Std	1.80	104	Y
7/19/88														Ref Std	1.80	103	IN
7/19/88														Ref Std	1.80	103	Y
7/19/88														Ref Std	1.80	103	Y
7/19/88														Ref Std	1.80	101	Y
7/19/88														Ref Std	1.80	103	Y
7/20/88	961	3.02	3.02	0.165	Y	3.02	2.50	100	Y	< 0.051	0.25	106	Y	Ref Std	1.80	99.7	Y
7/20/88	962	2.56	2.67	3.98	Y	2.62	2.50	99.8	Y	< 0.051	0.25	106	Y	Ref Std	1.80	99.2	Y
7/20/88	968	0.06	0.05	IN C	---	0.03	0.25	104	Y	< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/20/88	980	3.68	3.59	2.47	Y	3.64	2.50	99.3	Y	< 0.051	0.25	101	Y	Ref Std	1.80	99.2	Y
7/20/88	981	3.46	3.45	0.029	Y	3.45	2.50	102	Y	< 0.051	0.25	105	Y	Ref Std	1.80	99.8	Y
7/20/88	989	4.87	4.86	0.062	Y	4.87	2.50	98.2	Y	< 0.051	0.25	102	Y	Ref Std	1.80	99.7	Y
7/20/88	990	4.22	4.24	0.544	Y	4.23	2.50	98.4	Y	< 0.051	0.25	103	Y	Ref Std	1.80	100	Y
7/20/88	995	0.05	0.21	IN C	---	0.11	0.25	88.8	Y	< 0.051	0.25	107	Y	Ref Std	1.80	99.7	Y
7/20/88	1006	0.08	0.05	IN C	---	0.04	0.25	102	Y	< 0.051	0.25	105	Y	Ref Std	1.80	99.8	Y

AMMONIA EVENT: 7/88		PRECISION DUPLICATES Accept. Limits: 10.0				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/20/88	1012	2.85	2.93	2.63	Y	2.89	2.50	99.2	Y	< 0.051	0.25	103	Y	Ref Std	1.80	99.7	Y
7/20/88	1013	2.90	2.89	10.104	Y	2.89	2.50	10.180	IN	< 0.051	0.25	99.2	Y	Ref Std	1.80	99.3	Y
7/20/88	1020	<0.05	<0.05	IN C	—	<0.05	0.25	110	Y	< 0.051	0.25	98.0	Y	Ref Std	1.80	98.4	Y
7/20/88	1026	3.13	2.98	4.98	Y	3.05	2.50	95.0	Y	< 0.051	0.25	102	Y	Ref Std	1.80	99.6	Y
7/20/88	1027	2.98	2.99	10.201	Y	2.99	2.50	98.6	Y	< 0.051	0.25	98.8	Y	Ref Std	1.80	99.4	Y
7/20/88	1039	<0.05	<0.05	N C	—	<0.05	0.25	98.4	Y	< 0.051	0.25	98.4	Y	Ref Std	1.80	98.6	Y
7/20/88	1052	<0.05	<0.05	N C	—	<0.05	0.25	116	Y	< 0.051	0.25	103	Y	Ref Std	1.80	99.7	Y
7/20/88	1067	<0.05	<0.05	N C	—	<0.05	0.25	111	Y	< 0.051	0.25	104	Y	Ref Std	1.80	99.9	Y
7/20/88										< 0.051	0.25	103	Y	Ref Std	1.80	101	Y
7/20/88										< 0.051	0.25	102	Y	Ref Std	1.80	101	Y
7/20/88										< 0.051	0.25	101	Y	Ref Std	1.80	99.2	Y
7/20/88										< 0.051	0.25	101	Y	Ref Std	1.80	98.8	Y
7/20/88										< 0.051	0.25	167	IN	Ref Std	1.80	98.6	Y
7/20/88										< 0.051	0.25	128	IN	Ref Std	1.80	104	Y
7/22/88	1088	0.06	0.07	4.58	Y	0.07	0.25	87.8	Y	< 0.051	0.25	105	Y	Ref Std	1.80	100	Y
7/22/88	1117	0.44	0.13	111	IN	0.28	0.25	30.6	IN	< 0.051	0.25	104	Y	Ref Std	1.80	99.6	Y
7/22/88	1136	0.63	0.63	10.797	Y	0.63	0.25	94.6	Y	< 0.051	0.25	420	IN	Ref Std	1.80	14.4	IN
7/22/88	1143	0.31	0.31	0.00	Y	0.31	0.25	10.400	IN	< 0.051	0.25	107	Y	Ref Std	1.80	14.8	IN
7/22/88										< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/22/88										< 0.051	0.25	107	Y	Ref Std	1.80	100	Y
7/22/88										< 0.051	0.25	107	Y	Ref Std	1.80	100	Y
7/22/88										< 0.051	0.25	381	IN	Ref Std	1.80	58.7	IN
7/22/88										< 0.051	0.25	571	IN				
7/22/88	1149	1.42	1.33	6.47	Y	1.38	0.25	79.0	Y	< 0.051	0.25	105	Y	Ref Std	1.80	100	Y
7/22/88	1156	2.86	4.48	44.0	IN	3.67	2.50	73.6	Y	< 0.051	0.25	104	Y	Ref Std	1.80	100	Y
7/22/88	1157	3.48	2.85	19.9	IN	3.17	2.50	88.1	Y	< 0.051	0.25	100	Y	Ref Std	1.80	100	Y
7/22/88	1168	0.92	1.01	10.1	IN	0.96	0.25	114	Y	< 0.051	0.25	104	Y	Ref Std	1.80	100	Y
7/22/88	1237	0.69	0.67	2.21	Y	0.68	2.50	107	Y	< 0.051	0.25	396	IN	Ref Std	1.80	100	Y
7/22/88	1279	1.72	1.82	5.63	Y	1.77	2.50	105	Y	< 0.051	0.25	104	Y	Ref Std	1.80	99.8	Y
7/22/88	1286	3.30	3.15	4.74	Y	3.23	2.50	96.1	Y	< 0.051	0.25	516	IN	Ref Std	1.80	99.9	Y
7/22/88	1287	3.35	3.27	2.30	Y	3.31	2.50	99.3	Y	< 0.051	0.25	118	Y	Ref Std	1.80	100	Y
7/22/88	1305	2.61	2.65	1.41	Y	2.63	2.50	102	Y	< 0.051	0.25	356	IN	Ref Std	1.80	101	Y
7/22/88	1306	2.64	2.67	1.13	Y	2.65	2.50	99.5	Y	< 0.051	0.25	75.6	IN	Ref Std	1.80	68.6	IN
7/22/88	1318	1.90	3.99	71.3	IN	2.94	2.50	59.8	IN	< 0.051	0.25	118	Y	Ref Std	1.80	99.9	Y
7/22/88	1319	1.87	1.92	2.64	Y	1.90	2.50	104	Y	< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/22/88	1341	0.25	0.25	10.810	Y	0.25	0.25	95.2	Y	< 0.051	0.25	104	Y	Ref Std	1.80	83.7	IN
7/22/88	1363	0.23	0.20	13.7	IN	0.21	0.25	95.0	Y	< 0.051	0.25	90.8	Y	Ref Std	1.80	101	Y
7/22/88	1380	1.25	0.88	34.8	IN	1.06	0.25	171	IN	< 0.051	0.25	119	Y	Ref Std	1.80	101	Y
7/22/88	1390	0.32	0.31	3.22	Y	0.31	0.25	99.6	Y	< 0.051	0.25	111	Y	Ref Std	1.80	89.9	Y
7/22/88	1315	0.27	0.23	15.3	IN	0.25	0.25	95.6	Y	< 0.051	0.25	103	Y	Ref Std	1.80	101	Y
7/22/88	1237	0.52	0.53	3.24	Y	0.52	0.25	101	Y	< 0.051	0.25	120	Y	Ref Std	1.80	102	Y
7/22/88										< 0.051	0.25	111	Y	Ref Std	1.80	94.7	Y
7/22/88										< 0.051	0.25	108	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	122	IN	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	121	Y	Ref Std	1.80	98.3	Y
7/22/88										< 0.051	0.25	110	Y	Ref Std	1.80	103	Y
7/22/88										< 0.051	0.25	119	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	120	Y	Ref Std	1.80	99.7	Y
7/22/88										< 0.051	0.25	113	Y	Ref Std	1.80	102	Y
7/22/88										< 0.051	0.25	118	Y	Ref Std	1.80	101	Y

AMMONIA
EVENT: 7/88

DATE OF ANALYSIS	SAMPLE NUMBER	PRECISION DUPLICATES Accept. Limits: 10.0 ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	MATRIX SPIKES Accept. Limits: 73 - 127 AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	BLANK SPIKES Accept. Limits: 84 - 121 METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REFERENCE STANDARDS Accept. Limits: 86 - 110 REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/22/88										< 0.051	0.25	119	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	112	Y	Ref Std	1.80	103	Y
7/22/88										< 0.051	0.25	110	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	110	Y	Ref Std	1.80	103	Y
7/22/88										< 0.051	0.25	104	Y	Ref Std	1.80	103	Y
7/22/88										< 0.051	0.25	107	Y	Ref Std	1.80	102	Y
7/22/88										< 0.051	0.25	96.4	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	104	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	104	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	94.8	Y	Ref Std	1.80	101	Y
7/22/88										< 0.051	0.25	100	Y	Ref Std	1.80	102	Y
7/22/88										< 0.051	0.25	102	Y				
9/18/88	1460	4.54	4.58	0.855	Y	4.56	2.50	94.0	Y	< 0.051	0.25	103	Y				
9/18/88	1461	4.62	4.53	1.86	Y	4.57	2.50	95.2	Y	< 0.051	0.25	94.0	Y	Ref Std	1.80	93.6	Y
9/18/88	1484	4.89	4.62	5.64	Y	4.76	2.50	91.6	Y	< 0.051	0.25	110	Y	Ref Std	1.80	94.6	Y
9/18/88	1485	4.76	4.57	3.99	Y	4.67	2.50	107	Y	< 0.051	0.25	108	Y	Ref Std	1.80	99.1	Y
9/18/88	1526	0.83	0.88	6.06	Y	0.86	0.25	97.2	Y	< 0.051	0.25	83.6	IN	Ref Std	1.80	97.2	Y
9/18/88										< 0.051	0.25	84.0	Y	Ref Std	1.80	64.8	IN
9/18/88										< 0.051	0.25	95.6	Y	Ref Std	1.80	91.4	Y
9/18/88										< 0.051	0.25	84.8	Y	Ref Std	1.80	91.2	Y
9/18/88										< 0.051	0.25	94.0	Y	Ref Std	1.80	88.3	Y
9/18/88										< 0.051	0.25	96.0	Y	Ref Std	1.80	90.0	Y
9/18/88										< 0.051	0.25	99.2	Y	Ref Std	1.80	84.9	IN
9/18/88										< 0.051	0.25	102	Y	Ref Std	1.80	88.2	Y
9/18/88										< 0.051	0.25	497	IN	Ref Std	1.80	87.5	Y
9/18/88														Ref Std	1.80	88.9	Y
9/18/88														Ref Std	1.80	89.5	Y
9/18/88														Ref Std	1.80	90.7	Y
9/18/88														Ref Std	1.80	90.8	Y
9/18/88														Ref Std	1.80	88.9	Y
9/18/88														Ref Std	1.80	89.3	Y
9/18/88														Ref Std	1.80	93.3	Y
9/18/88														Ref Std	1.80	88.7	Y
7/24/88	1594	2.44	2.14	13.2	IN	2.29	2.50	149	IN					Ref Std	1.80	93.7	Y
7/24/88	1595	2.40	2.87	17.7	IN	2.64	2.50	174	IN	< 0.051	0.25	105	Y	Ref Std	1.80	102	Y
7/24/88	1599	0.48	0.55	12.2	IN	0.51	0.25	114	Y	< 0.051	0.25	103	Y	Ref Std	1.80	102	Y
7/24/88	1607	4.81	4.71	2.16	Y	4.76	2.50	99.9	Y	< 0.051	0.25	102	Y	Ref Std	1.80	102	Y
7/24/88	1635	3.06	3.18	3.59	Y	3.12	2.50	108	Y	< 0.051	0.25	104	Y	Ref Std	1.80	102	Y
7/24/88	1636	3.07	3.07	0.163	Y	3.07	2.50	105	Y	< 0.051	0.25	104	Y	Ref Std	1.80	101	Y
7/24/88	1651	0.25	0.30	15.7	IN	0.27	0.25	115	Y	< 0.051	0.25	103	Y	Ref Std	1.80	102	Y
7/24/88	1659	5.20	2.30	77.5	IN	3.75	2.50	48.4	IN	< 0.051	0.25	106	Y	Ref Std	1.80	103	Y
7/24/88	1570	0.76	0.78	2.85	Y	0.77	0.25	106	Y	< 0.051	0.25	114	Y	Ref Std	1.80	102	Y
7/24/88	1575	0.69	0.69	0.146	Y	0.69	0.25	104	Y	< 0.051	0.25	123	IN	Ref Std	1.80	102	Y
7/24/88	1586	0.75	0.74	2.02	Y	0.74	0.25	111	Y	< 0.051	0.25	130	IN	Ref Std	1.80	103	Y
7/24/88	1608	5.55	5.49	0.996	Y	5.52	2.50	101	Y	< 0.051	0.25	113	Y	Ref Std	1.80	102	Y
7/24/88	1622	5.90	3.59	48.8	IN	4.75	2.50	45.4	IN	< 0.051	0.25	150	IN	Ref Std	1.80	>110	IN
7/24/88	1623	3.87	3.59	7.62	Y	3.73	2.50	107	Y	< 0.051	0.25	139	IN	Ref Std	1.80	103	Y
7/24/88	1627	0.39	0.40	2.03	Y	0.39	0.25	104	Y	< 0.051	0.25	132	IN	Ref Std	1.80	103	Y
7/24/88	1664	0.28	0.32	13.3	IN	0.30	0.25	114	Y	< 0.051	0.25	152	IN	Ref Std	1.80	102	Y
										< 0.051	0.25	146	IN	Ref Std	1.80	102	Y

AMMONIA EVENT: 7/88		PRECISION DUPLICATES Accept. Limits: 10.0				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/24/88	1660	2.51	2.05	6.22	Y	2.43	2.50	102	Y	< 0.051	0.25	122	IN	Ref Std	1.80	103	Y
7/24/88										< 0.051	0.25	115	Y	Ref Std	1.80	105	Y
7/24/88										< 0.051	0.25	129	IN	Ref Std	1.80	103	Y
7/24/88										< 0.051	0.25	122	IN	Ref Std	1.80	102	Y
7/24/88										< 0.051	0.25	128	IN	Ref Std	1.80	104	Y
7/24/88										< 0.051	0.25	109	Y	Ref Std	1.80	104	Y
7/24/88										< 0.051	0.25	140	IN	Ref Std	1.80	102	Y
7/24/88										< 0.051	0.25	122	IN	Ref Std	1.80	103	Y
7/24/88										< 0.051	0.25	113	Y	Ref Std	1.80	103	Y
7/25/88	1691	4.17	4.02	3.71	Y	4.09	2.50	4.36	IN	< 0.051	0.25	100	Y	Ref Std	1.80	99.7	Y
7/25/88	1692	6.45	4.37	38.4	IN	5.41	2.50	56.7	IN	< 0.051	0.25	101	Y	Ref Std	1.80	99.1	Y
7/25/88	1696	0.41	0.19	74.5	IN	0.30	0.25	57.0	IN	< 0.051	0.25	99.6	Y	Ref Std	1.80	101	Y
7/25/88										< 0.051	0.25	98.0	Y	Ref Std	1.80	102	Y
7/25/88										< 0.051	0.25	101	Y	Ref Std	1.80	101	Y
7/25/88										< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/25/88										< 0.051	0.25	106	Y	Ref Std	1.80	102	Y
7/25/88										< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
7/25/88										< 0.051	0.25	105	Y	Ref Std	1.80	101	Y
7/25/88										< 0.051	0.25	107	Y				
7/25/88										< 0.051	0.25	104	Y				
7/25/88										< 0.051	0.25	109	Y				
7/25/88										< 0.051	0.25	114	Y				
7/26/88	1679	4.58	5.20	12.61	IN	4.89	2.50	116	Y	< 0.051	0.25	105	Y	Ref Std	1.80	>110	IN
7/26/88	1683	0.35	0.41	16.73	IN	0.38	0.25	115	Y	< 0.051	0.25	105	Y	Ref Std	1.80	102	Y
7/26/88										< 0.051	0.25	105	Y	Ref Std	1.80	100	Y
7/26/88										< 0.051	0.25	106	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	105	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	104	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	106	Y	Ref Std	1.80	105	Y
7/26/88										< 0.051	0.25	109	Y	Ref Std	1.80	105	Y
7/26/88										< 0.051	0.25	108	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	744	IN	Ref Std	1.80	104	Y
7/26/88														Ref Std	1.80	104	Y
7/26/88														Ref Std	1.80	104	Y
7/26/88														Ref Std	1.80	103	Y
7/26/88	1877	1.00	0.93	6.53	Y	0.96	0.25	91.8	Y	< 0.051	0.25	107	Y	Ref Std	1.80	104	Y
7/26/88	1897	2.24	2.78	21.3	IN	2.51	2.50	93.6	Y	< 0.051	0.25	102	Y	Ref Std	1.80	103	Y
7/26/88	1909	4.74	4.77	10.589	Y	4.75	2.50	102	Y	< 0.051	0.25	100	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	98.4	Y	Ref Std	1.80	100	Y
7/26/88										< 0.051	0.25	100	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	103	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	98.4	Y	Ref Std	1.80	102	Y
7/26/88										< 0.051	0.25	95.6	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	98.0	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	108	Y	Ref Std	1.80	102	Y
7/26/88										< 0.051	0.25	100	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	104	Y	Ref Std	1.80	103	Y
7/26/88														Ref Std	1.80	102	Y
7/26/88														Ref Std	1.80	105	Y
7/26/88														Ref Std	1.80	103	Y

AMMONIA		PRECISION DUPLICATES				MATRIX SPIKES				BLANK SPIKES				REFERENCE STANDARDS			
EVENT: 7/88		Accept. Limits: 10.0				Accept. Limits: 73 - 127				Accept. Limits: 84 - 121				Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
7/26/88	1969	3.69	3.69	10.027	Y	3.69	2.50	10.540	IN	< 0.051	0.25	0.00	IN	Ref Std	1.80	99.9	Y
7/26/88	1970	3.65	3.67	10.519	Y	3.66	2.50	1.18	IN	< 0.051	0.25	0.00	IN	Ref Std	1.80	99.8	Y
7/26/88	1982	3.11	2.97	4.54	Y	3.04	2.50	99.0	Y	< 0.051	0.25	0.00	IN	Ref Std	1.80	99.5	Y
7/26/88	1983	2.93	2.92	10.342	Y	2.92	2.50	105	Y	< 0.051	0.25	97.6	Y	Ref Std	1.80	102	Y
7/26/88	1984	3.86	3.88	10.336	Y	3.87	2.50	97.0	Y	< 0.051	0.25	98.8	Y	Ref Std	1.80	100	Y
7/26/88	2004	3.36	3.42	2.04	Y	3.39	2.50	101	Y	< 0.051	0.25	95.6	Y	Ref Std	1.80	99.3	Y
7/26/88	2005	3.27	3.18	3.01	Y	3.23	2.50	98.7	Y	< 0.051	0.25	97.6	Y	Ref Std	1.80	101	Y
7/26/88	2027	4.01	4.00	10.349	Y	4.01	2.50	95.7	Y	< 0.051	0.25	98.8	Y	Ref Std	1.80	102	Y
7/26/88	2028	3.94	3.91	10.771	Y	3.92	2.50	102	Y	< 0.051	0.25	98.0	Y	Ref Std	1.80	101	Y
7/26/88										< 0.051	0.25	103	Y	Ref Std	1.80	102	Y
7/26/88										< 0.051	0.25	104	Y	Ref Std	1.80	97.6	Y
7/26/88										< 0.051	0.25	104	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	105	Y	Ref Std	1.80	107	Y
7/26/88										< 0.051	0.25	90.0	Y	Ref Std	1.80	100	Y
7/26/88										< 0.051	0.25	93.2	Y	Ref Std	1.80	101	Y
7/26/88										< 0.051	0.25	90.8	Y	Ref Std	1.80	99.9	Y
7/26/88										< 0.051	0.25	99.6	Y	Ref Std	1.80	103	Y
7/26/88										< 0.051	0.25	232	IN	Ref Std	1.80	105	Y
7/26/88										< 0.051	0.25	116	Y	Ref Std	1.80	104	Y
7/26/88										< 0.051	0.25	110	Y				

GIC LABORATORY QUALITY CONTROL REPORT

CUSTOMER: Clinton Bogart JOB#: Hackensack River Study PARAMETER: AMMONIA REPORT TYPE: JOB SPECIFIC QC
SAMPLING EVENT: AUGUST 1988 UNITS: mg/l

		DUPLICATION PRECISION				MATRIX SPIKES				BLANK SPIKES				REFERENCE STANDARDS			
		Acceptt. Limits: 20				Acceptt. Limits: 73 - 127				Acceptt. Limits: 84 - 121				Acceptt. Limits: 85 - 110			
DATE OF ANALYSIS	SAMPLE #	ORIG. RESULT	DUP. RESULT	% RPD	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	BLANK RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	ENTRY VALUE	% REC.	WITHIN LIMITS
9/ 7/88	1	0.61	0.59	3.02	Y	0.60	0.25	8.80	IN	< 0.061	0.25	102	Y	Ref Std	1.80	97.5	Y
9/7/88	25	0.31	0.31	1.30	Y	0.31	0.25	95.2	Y	< 0.061	0.25	104	Y	Ref Std	1.80	99.7	Y
9/ 7/88	49	1.12	1.13	0.891	Y	1.12	0.25	81.2	Y	< 0.061	0.25	107	Y	Ref Std	1.80	96.9	Y
9/ 7/88										< 0.061	0.25	96.8	Y	Ref Std	1.80	99.6	Y
9/ 7/88										< 0.061	0.25	97.6	Y	Ref Std	1.80	95.4	Y
9/ 7/88										< 0.061	0.25	59.6	IN	Ref Std	1.80	96.9	Y
9/ 7/88										< 0.061	0.25	101	Y	Ref Std	1.80	98.7	Y
9/ 7/88										< 0.061	0.25	83.2	IN	Ref Std	1.80	95.0	Y
9/ 7/88														Ref Std	1.80	97.3	Y
9/27/88														Ref Std	1.80	99.2	Y
9/27/88														Ref Std	1.80	98.7	Y
9/ 3/88	76	0.42	0.40	3.45	Y	0.41	0.25	72.6	Y	< 0.061	0.25	0.00	IN	Ref Std	1.80	0.00	IN
9/ 8/88	113	0.30	0.43	37.7	IN	0.36	0.25	73.4	Y	< 0.061	0.25	127	IN	Ref Std	1.80	0.00	IN
9/ 8/88	152	0.28	0.34	18.7	IN	0.31	0.25	109	Y	< 0.061	0.25	100	Y	Ref Std	1.80	96.7	Y
9/ 8/88										< 0.061	0.25	90.4	Y	Ref Std	1.80	93.9	Y
9/ 8/88										< 0.061	0.25	90.4	Y	Ref Std	1.80	90.9	Y
9/ 8/88										< 0.061	0.25	94.4	Y	Ref Std	1.80	94.2	Y
9/ 8/88										< 0.061	0.25	89.6	Y	Ref Std	1.80	93.2	Y
9/ 8/88										< 0.061	0.25	90.0	Y	Ref Std	1.80	95.7	Y
9/ 9/88														Ref Std	1.80	91.2	Y
9/ 9/88														Ref Std	1.80	89.8	Y
9/ 9/88														Ref Std	1.80	88.9	Y
9/ 9/88														Ref Std	1.80	90.7	Y
9/12/88														Ref Std	1.80	93.2	Y
9/12/88														Ref Std	1.80	91.2	Y
9/12/88														Ref Std	1.80	93.8	Y
9/12/88														Ref Std	1.80	94.8	Y
9/13/88	113	0.13	0.14	7.69	Y	0.13	0.25	124	Y	< 0.061	0.25	84.8	Y	Ref Std	1.80	96.1	Y
9/13/88	147	0.21	0.21	0.00	Y	0.21	0.25	118	Y	< 0.061	0.25	86.0	Y	Ref Std	1.80	96.4	Y
9/13/88	167	0.74	0.64	15.3	IN	0.69	0.25	60.2	IN	< 0.061	0.25	102	Y	Ref Std	1.80	94.8	Y
9/13/88										< 0.061	0.25	96.8	Y	Ref Std	1.80	94.3	Y
9/13/88										< 0.061	0.25	88.8	Y	Ref Std	1.80	93.5	Y
9/13/88										< 0.061	0.25	92.8	Y	Ref Std	1.80	94.5	Y
9/13/88										< 0.061	0.25	102	Y	Ref Std	1.80	95.8	Y
9/13/88										< 0.061	0.25	92.0	Y	Ref Std	1.80	96.9	Y
9/13/88										< 0.061	0.25	92.0	Y	Ref Std	1.80	95.2	Y
9/13/88										< 0.061	0.25	99.2	Y	Ref Std	1.80	95.4	Y
9/13/88										< 0.061	0.25	100	Y	Ref Std	1.80	94.3	Y
9/13/88										< 0.061	0.25	98.0	Y	Ref Std	1.80	102	Y
9/13/88										< 0.061	0.25	98.8	Y	Ref Std	1.80	99.9	Y
9/13/88										< 0.061	0.25	103	Y	Ref Std	1.80	100	Y
9/13/88										< 0.061	0.25	98.0	Y	Ref Std	1.80	98.2	Y
9/13/88														Ref Std	1.80	99.5	Y
9/13/88														Ref Std	1.80	109	Y
9/13/88														Ref Std	1.80	99.4	Y
9/13/88														Ref Std	1.80	97.6	Y

AMMONIA AUGUST 1988		DUPLICATE Accept. Limits: 10				MATRIX SPIKES Accept. Limits: 73 - 127				BLANK SPIKES Accept. Limits: 84 - 121				REFERENCE STANDARDS Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
9/13/88														Ref Std	1.80	99.4	Y
9/13/88														Ref Std	1.80	98.6	Y
9/13/88														Ref Std	1.80	99.8	Y
9/24/88	381	1.07	10.x Rng	N C	-	N C	0.25	N C	-	< 0.051	0.25	108	Y	Ref Std	1.80	104	Y
9/24/88	382	0.x Rng	10.x Rng	N C	-	N C	0.25	N C	-	< 0.051	0.25	102	Y	Ref Std	1.80	97.9	Y
9/24/88	386	1.10	1.10	0.071	-	1.10	0.25	101	Y	< 0.051	0.25	108	Y	Ref Std	1.80	102	Y
9/24/88	352	0.46	10.x Rng	N C	-	N C	0.25	N C	-	< 0.051	0.25	109	Y	Ref Std	1.80	101	Y
9/24/88	353	0.x Rng	10.x Rng	N C	-	N C	0.25	N C	-	< 0.051	0.25	114	Y	Ref Std	1.80	101	Y
9/24/88										< 0.051	0.25	104	Y	Ref Std	1.80	98.8	Y
9/24/88										< 0.051	0.25	107	Y	Ref Std	1.80	100	Y
9/24/88										< 0.051	0.25	107	Y	Ref Std	1.80	98.8	Y
9/24/88										< 0.051	0.25	100	Y	Ref Std	1.80	99.5	Y
9/24/88										< 0.051	0.25	96.0	Y	Ref Std	1.80	102	Y
9/24/88										< 0.051	0.25	78.4	Y	Ref Std	1.80	104	Y
9/24/88										< 0.051	0.25	106	Y	Ref Std	1.80	99.5	Y
9/24/88										< 0.051	0.25	108	Y	Ref Std	1.80	99.3	Y
9/24/88										< 0.051	0.25	110	Y	Ref Std	1.80	97.2	Y
9/24/88														Ref Std	1.80	101	Y
9/24/88														Ref Std	1.80	101	Y
9/24/88														Ref Std	1.80	102	Y
9/24/88														Ref Std	1.80	103	Y
9/24/88														Ref Std	1.80	102	Y
9/24/88														Ref Std	1.80	103	Y
9/25/88	383	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	--	< 0.051	0.25	102	Y	Ref Std	1.80	99.4	Y
9/25/88	384	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	--	< 0.051	0.25	103	Y	Ref Std	1.80	99.6	Y
9/25/88	385	0.95	10.x Rng	N C	-	0.47	0.25	N C	--	< 0.051	0.25	0.00	IN	Ref Std	1.80	101	Y
9/25/88	386	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	--	< 0.051	0.25	99.6	Y	Ref Std	1.80	99.8	Y
9/25/88	351	5.14	5.01	2.72	Y	5.07	2.50	108	Y	< 0.051	0.25	102	Y	Ref Std	1.80	99.7	Y
9/25/88	352	3.43	3.48	1.65	Y	3.46	2.50	10.0%	IN	< 0.051	0.25	724	IN	Ref Std	1.80	99.8	Y
9/25/88	352	0.19	0.20	4.17	Y	0.19	0.25	102	Y	< 0.051	0.25	100	Y	Ref Std	1.80	98.9	Y
9/25/88	365	1.46	10.x Rng	N C	-	0.73	0.25	N C	--	< 0.051	0.25	99.6	Y	Ref Std	1.80	101	Y
9/25/88	366	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	--	< 0.051	0.25	106	Y	Ref Std	1.80	101	Y
9/25/88	382	1.26	1.26	0.238	-	1.26	0.25	108	Y	< 0.051	0.25	251	IN	Ref Std	1.80	101	Y
9/25/88	394	0.50	0.53	7.02	-	0.51	0.25	96.0	Y	< 0.051	0.25	104	Y	Ref Std	1.80	101	Y
9/25/88	396	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	--	< 0.051	0.25	106	Y	Ref Std	1.80	101	Y
9/25/88	397	0.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	---	< 0.051	0.25	105	Y	Ref Std	1.80	99.9	Y
9/25/88	432	0.23	0.15	43.8	IN	0.19	0.25	165	Y					Ref Std	1.80	101	Y
9/25/88	434	0.52	0.50	2.55	-	0.51	0.25	103	Y					Ref Std	1.80	102	Y
9/25/88														Ref Std	1.80	103	Y
9/25/88														Ref Std	1.80	103	Y
9/25/88														Ref Std	1.80	102	Y
9/25/88														Ref Std	1.80	103	Y
9/25/88														Ref Std	1.80	103	Y
9/25/88														Ref Std	1.80	103	Y
9/25/88														Ref Std	1.80	58.9	IN
9/26/88	462	0.63	0.63	0.319	-	0.63	0.25	105	Y	< 0.051	0.25	106	Y	Ref Std	1.80	100	Y
9/26/88	467	10.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	---	< 0.051	0.25	102	Y	Ref Std	1.80	101	Y
9/26/88	471	1.28	1.26	1.81	-	1.27	0.25	91.4	Y	< 0.051	0.25	106	Y	Ref Std	1.80	101	Y
9/26/88	475	0.44	0.33	26.3	IN	0.38	0.25	83.8	Y	< 0.051	0.25	101	Y	Ref Std	1.80	101	Y
9/26/88	478	10.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	---	< 0.051	0.25	104	Y	Ref Std	1.80	102	Y
9/26/88	502	0.58	0.62	5.68	-	0.60	0.25	96.4	Y	< 0.051	0.25	97.6	Y	Ref Std	1.80	102	Y
9/26/88	530	10.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	---	< 0.051	0.25	110	Y	Ref Std	1.80	100	Y
9/26/88	531	10.x Rng	10.x Rng	N C	-	10.x Rng	0.25	N C	---	< 0.051	0.25	121	IN	Ref Std	1.80	102	Y

APPENDIX		PRECISION DUPLICATE				MATRIX SPIKES				TOTAL SPIKES				REFERENCE STANDARDS			
AUGUST 1988		Accept. Limits: 10				Accept. Limits: 73 - 127				Accept. Limits: 84 - 121				Accept. Limits: 85 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% RPD	WITHIN LIMITS	ORG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
9/26/88	563	0.49 ug/kg	0.49	N C	-	0.49	0.25	196	Y	< 0.061	0.25	113	Y	Ref Std	1.80	102	Y
9/26/88	564	0.49 ug/kg	0.49 ug/kg	N C		0.49 ug/kg	0.25	N C	--	< 0.061	0.25	110	Y	Ref Std	1.80	102	Y
9/26/88	565	0.49 ug/kg	0.49 ug/kg	N C		0.49 ug/kg	0.25	N C	--	< 0.061	0.25	113	Y	Ref Std	1.80	101	Y
9/26/88	566	0.49 ug/kg	0.49 ug/kg	N C		0.49 ug/kg	0.25	N C	-	< 0.061	0.25	115	Y	Ref Std	1.80	104	Y
9/26/88										< 0.061	0.25	114	Y	Ref Std	1.80	107	Y
9/26/88														Ref Std	1.80	103	Y
9/26/88														Ref Std	1.80	104	Y
9/26/88														Ref Std	1.80	103	Y
9/26/88														Ref Std	1.80	104	Y
9/26/88														Ref Std	1.80	103	Y
9/26/88														Ref Std	1.80	102	Y
9/26/88														Ref Std	1.80	103	Y
9/26/88														Ref Std	1.80	103	Y
9/26/88														Ref Std	1.80	101	Y
9/27/88	642	0.49 ug/kg	0.49 ug/kg	N C		0.49	0.25	N C	--	< 0.061	0.25	114	Y	Ref Std	1.80	106	Y
9/27/88	629	0.49 ug/kg	0.49 ug/kg	N C		N C	0.25	N C	--	< 0.061	0.25	114	Y	Ref Std	1.80	103	Y
9/27/88	630	0.49 ug/kg	0.49 ug/kg	N C		N C	0.25	N C	--	< 0.061	0.25	125	IN	Ref Std	1.80	98.8	Y
9/27/88	635	0.49 ug/kg	0.49 ug/kg	N C		N C	0.25	N C	--	< 0.061	0.25	123	IN	Ref Std	1.80	98.1	Y
9/27/88	655	0.49 ug/kg	0.49 ug/kg	N C		N C	0.25	N C	--	< 0.061	0.25	98.0	Y	Ref Std	1.80	103	Y
9/27/88	672	0.06	0.06	N C	-	0.06	0.25	126	Y	< 0.061	0.25	104	Y	Ref Std	1.80	102	Y
9/27/88	694	0.06	0.10	N C	-	0.07	0.25	99.6	Y	< 0.061	0.25	104	Y	Ref Std	1.80	99.5	Y
9/27/88	711	0.14	0.69	135	IN	0.61	0.25	210	IN	< 0.061	0.25	101	Y	Ref Std	1.80	100	Y
9/27/88	731	0.73	0.50	113	IN	0.47	0.25	3.20	IN	< 0.061	0.25	104	Y	Ref Std	1.80	94.2	Y
9/27/88	752	0.52	0.15	145	IN	0.34	0.25	49.0	IN	< 0.061	0.25	100	Y	Ref Std	1.80	99.8	Y
9/27/88	785	0.44	0.28	43.8	IN	0.38	0.25	97.0	IN	< 0.061	0.25	115	Y	Ref Std	1.80	94.6	Y
9/27/88	772	1.13	1.11	1.43	Y	1.12	0.25	101	Y	< 0.061	0.25	112	Y	Ref Std	1.80	95.9	Y
9/27/88	736	1.13	1.15	1.49	Y	1.14	0.25	90.6	Y	< 0.061	0.25	113	Y	Ref Std	1.80	95.8	Y
9/27/88	707	1.64	1.83	10.3	Y	1.93	0.25	778	IN	< 0.061	0.25	112	Y	Ref Std	1.80	97.5	Y
9/27/88	691	0.49 ug/kg	0.49 ug/kg	N C		N C	0.25	N C	--	< 0.061	0.25	120	-	Ref Std	1.80	95.2	Y
9/27/88										< 0.061	0.25	121	IN	Ref Std	1.80	94.8	Y
9/27/88										< 0.061	0.25	119	Y	Ref Std	1.80	94.7	Y
9/27/88										< 0.061	0.25	119	Y	Ref Std	1.80	94.9	Y
9/27/88										< 0.061	0.25	120	Y	Ref Std	1.80	95.4	Y
9/27/88										< 0.061	0.25	123	IN	Ref Std	1.80	95.8	Y
9/27/88										< 0.061	0.25	115	Y	Ref Std	1.80	96.0	Y
9/27/88										< 0.061	0.25	121	Y	Ref Std	1.80	95.1	Y
9/27/88										< 0.061	0.25	117	Y	Ref Std	1.80	96.3	Y
9/27/88														Ref Std	1.80	96.3	Y
9/27/88														Ref Std	1.80	94.2	Y
9/27/88														Ref Std	1.80	98.4	Y
9/27/88														Ref Std	1.80	96.6	Y
9/27/88														Ref Std	1.80	95.7	Y
9/27/88														Ref Std	1.80	97.5	Y
9/27/88														Ref Std	1.80	95.4	Y
9/27/88														Ref Std	1.80	96.7	Y
9/27/88														Ref Std	1.80	97.2	Y
9/27/88														Ref Std	1.80	98.1	Y
9/27/88														Ref Std	1.80	98.2	Y
9/27/88														Ref Std	1.80	98.7	Y
9/27/88														Ref Std	1.80	97.8	Y
9/27/88														Ref Std	1.80	94.9	Y
9/27/88														Ref Std	1.80	96.5	Y
9/27/88														Ref Std	1.80	93.3	Y

ANALYTE:		PRECISION (DUPLICATES)				MATRIX SPIKES				BLANK SPIKES				ELEMENT STANDARDS			
ACCEPT LIMIT		Accept. Limits: 20				Accept. Limits: 75 - 125				Accept. Limits: 84 - 121				Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE ID	ORIG. RESULT	DUP. RESULT	% DIFFERENCE	WITHIN LIMITS	ORIG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
9/27/88														Ref Std	1.00	93.6	Y
9/27/88														Ref Std	1.00	92.4	Y
9/27/88														Ref Std	1.00	93.6	Y
9/27/88														Ref Std	1.00	93.8	Y
10/18/88	397	1.87	1.71	9.37	Y	1.80	2.50	104	Y	< 0.061	0.25	102	Y	Ref Std	1.00	103	Y
10/18/88										< 0.061	0.25	98.8	Y	Ref Std	1.00	98.2	Y
10/18/88										< 0.061	0.25	97.6	Y	Ref Std	1.00	98.4	Y
10/18/88										< 0.061	0.25	100	Y	Ref Std	1.00	98.5	Y
10/18/88										< 0.061	0.25	99.6	Y	Ref Std	1.00	101	Y
10/18/88										< 0.061	0.25	98.8	Y	Ref Std	1.00	100	Y
10/18/88										< 0.061	0.25	101	Y	Ref Std	1.00	100	Y
10/18/88										< 0.061	0.25	101	Y	Ref Std	1.00	100	Y
10/18/88										< 0.061	0.25	499	IN	Ref Std	1.00	102	Y
10/18/88														Ref Std	1.00	101	Y
10/18/88														Ref Std	1.00	97.3	Y
10/18/88														Ref Std	1.00	97.6	Y
10/18/88														Ref Std	1.00	97.6	Y
10/18/88														Ref Std	1.00	97.7	Y
10/18/88														Ref Std	1.00	100	Y
10/17/88	391	2.25	2.17	3.49	Y	2.21	2.50	95.4	Y	< 0.061	0.25	114	Y	Ref Std	1.00	97.9	Y
10/17/88	392	2.31	2.36	1.75	Y	2.33	2.50	94.3	Y	< 0.061	0.25	108	IN	Ref Std	1.00	97.6	Y
10/17/88	393	2.81	2.95	4.94	Y	2.83	2.50	97.4	Y	< 0.061	0.25	98.8	Y	Ref Std	1.00	98.3	Y
10/17/88	394	2.89	2.91	10.760	Y	2.90	2.50	92.6	Y	< 0.061	0.25	84.8	Y	Ref Std	1.00	95.7	Y
10/17/88	395	2.02	2.31	13.3	IN	2.17	2.50	106	Y	< 0.061	0.25	86.8	Y	Ref Std	1.00	96.5	Y
10/17/88	396	2.85	2.03	10.618	Y	2.04	2.50	86.2	Y	< 0.061	0.25	91.2	Y	Ref Std	1.00	94.3	Y
10/17/88	397	2.35	2.36	10.003	Y	2.35	2.50	91.1	Y	< 0.061	0.25	158	IN	Ref Std	1.00	97.5	Y
10/17/88	398	2.02	2.45	19.6	IN	2.23	2.50	96.3	Y	< 0.061	0.25	88.8	Y	Ref Std	1.00	97.7	Y
10/17/88	399	2.83	2.76	2.82	Y	2.79	2.50	101	Y	< 0.061	0.25	104	Y	Ref Std	1.00	97.4	Y
10/17/88	396	2.63	2.52	5.09	Y	2.60	2.50	103	Y	< 0.061	0.25	99.6	Y	Ref Std	1.00	97.9	Y
10/17/88	400	4.95	4.93	10.405	Y	4.94	2.50	102	Y	< 0.061	0.25	98.4	Y	Ref Std	1.00	99.1	Y
10/17/88	401	2.13	2.15	10.512	Y	2.14	2.50	103	Y	< 0.061	0.25	114	Y	Ref Std	1.00	97.7	Y
10/17/88	550	4.98	5.09	2.10	Y	5.04	2.50	107	Y	< 0.061	0.25	148	IN	Ref Std	1.00	98.9	Y
10/17/88	551	5.08	5.76	13.6	IN	5.99	2.50	84.2	Y	< 0.061	0.25	116	Y	Ref Std	1.00	99.1	Y
10/17/88	549	4.58	4.50	10.372	Y	4.59	2.50	97.4	Y	< 0.061	0.25	121	IN	Ref Std	1.00	98.1	Y
10/17/88	505	3.04	3.13	2.75	Y	3.09	2.50	102	Y	< 0.061	0.25	127	IN	Ref Std	1.00	99.6	Y
10/17/88	506	3.29	3.47	5.04	Y	3.38	2.50	105	Y					Ref Std	1.00	100	Y
10/17/88	648	5.05	5.16	2.16	Y	5.10	2.50	101	Y					Ref Std	1.00	100	Y
10/17/88	625	5.15	5.08	1.41	Y	5.12	2.50	101	Y					Ref Std	1.00	100	Y
10/17/88	650	5.15	5.08	1.45	Y	5.11	2.50	104	Y					Ref Std	1.00	100	Y
10/17/88	651	2.86	3.32	15.0	IN	3.09	2.50	14.3	IN					Ref Std	1.00	101	Y
10/17/88	676	3.18	1.98	46.5	IN	2.58	2.50	79.9	Y					Ref Std	1.00	100	Y
10/17/88	574	4.61	4.68	6.52	Y	4.62	2.50	82.5	Y					Ref Std	1.00	102	Y
10/17/88														Ref Std	1.00	103	Y
10/17/88														Ref Std	1.00	102	Y
10/17/88														Ref Std	1.00	102	Y
10/17/88														Ref Std	1.00	103	Y
10/17/88														Ref Std	1.00	103	Y
10/17/88														Ref Std	1.00	104	Y
10/17/88														Ref Std	1.00	104	Y
10/17/88														Ref Std	1.00	103	Y
10/17/88														Ref Std	1.00	104	Y
10/17/88														Ref Std	1.00	105	Y
10/17/88														Ref Std	1.00	105	Y

GIC LABORATORY QUALITY CONTROL REPORT

CUSTOMER: Clinton Bogart JOB#: Hackensack River Study PARAMETER: AMMONIA REPORT TYPE: JOB SPECIFIC QC
SAMPLING EVENT: OCTOBER 1988 UNITS: mg/l

		PRECISION DUPLICATES				MATRIX SPIKES				BLANK SPIKES				REFERENCE STANDARDS			
		Accept. Limits: 10				Accept. Limits: 73 - 127				Accept. Limits: 84 - 121				Accept. Limits: 86 - 110			
DATE OF ANALYSIS	SAMPLE NUMBER	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
11/21/88	11	11.78	11.79	0.110	Y	11.79	2.50	88.7	Y	< 0.051	0.25	104	Y	Ref Std	1.80	96.9	Y
11/21/88	22	13.91	13.74	1.24	Y	13.82	2.50	75.1	Y	< 0.051	0.25	81.6	IN	Ref Std	1.80	97.2	Y
11/21/88	33	11.96	11.86	0.809	Y	11.91	2.50	94.7	Y	< 0.051	0.25	106	Y	Ref Std	1.80	95.3	Y
11/21/88	44	18.64	19.45	4.25	Y	19.04	2.50	762	IN	< 0.051	0.25	84.0	Y	Ref Std	1.80	94.8	Y
11/21/88	66	16.82	16.89	0.077	Y	16.83	2.50	83.3	Y	< 0.051	0.25	84.8	Y	Ref Std	1.80	95.0	Y
11/21/88	77	14.72	14.45	1.67	Y	14.58	2.50	483	IN	< 0.051	0.25	99.2	Y	Ref Std	1.80	95.3	Y
11/21/88	88	6.07	6.04	0.545	Y	6.05	2.50	103.8	Y	< 0.051	0.25	98.4	Y	Ref Std	1.80	101	Y
11/21/88	99	15.95	15.95	0.013	Y	15.95	2.50	78.7	Y	< 0.051	0.25	100	Y	Ref Std	1.80	101	Y
11/21/88	111	Ov/Rng	Ov/Rng	N C	-	0.00	2.50	0.00	IN	< 0.051	0.25	93.2	Y	Ref Std	1.30	13.7	IN
11/21/88	122	14.37	14.39	0.111	Y	14.38	2.50	104	Y	< 0.051	0.25	93.2	Y	Ref Std	1.80	98.2	Y
11/21/88	133	14.60	14.69	0.635	Y	14.64	2.50	99.1	Y	< 0.051	0.25	91.6	Y	Ref Std	1.80	99.9	Y
11/21/88	144	15.39	15.29	0.672	Y	15.34	2.50	92.4	Y	< 0.051	0.25	107	Y	Ref Std	1.80	99.7	Y
11/21/88	155	12.98	12.89	0.673	Y	12.94	2.50	89.9	Y	< 0.051	0.25	89.6	Y	Ref Std	1.80	95.3	Y
11/21/88	166	7.19	7.18	0.139	Y	7.18	2.50	89.4	Y	< 0.051	0.25	106	Y	Ref Std	1.80	97.5	Y
11/21/88	177	6.08	8.25	30.3	IN	7.16	2.50	43.4	IN	< 0.051	0.25	91.2	Y	Ref Std	1.80	98.1	Y
11/21/88	188	7.99	7.78	2.73	Y	7.89	2.50	76.5	Y	< 0.051	0.25	83.6	IN	Ref Std	1.80	98.4	Y
11/21/88	199	1.40	1.22	13.3	IN	1.31	2.50	94.0	Y	< 0.051	0.25	69.6	IN	Ref Std	1.80	97.4	Y
11/21/88	211	2.94	2.93	0.341	Y	2.93	2.50	93.9	Y					Ref Std	1.80	91.7	Y
11/21/88														Ref Std	1.80	92.2	Y
11/21/88														Ref Std	1.80	96.2	Y
11/21/88														Ref Std	1.80	94.83	Y
11/21/88														Ref Std	1.80	94.39	Y
11/21/88														Ref Std	1.80	95.00	Y
11/21/88														Ref Std	1.80	85.33	IN
11/21/88														Ref Std	1.80	85.78	IN
11/21/88														Ref Std	1.80	86.00	Y
11/21/88														Ref Std	1.80	86.56	Y
11/21/88														Ref Std	1.80	80.06	IN
11/21/88														Ref Std	1.80	80.72	IN
11/21/88														Ref Std	1.80	81.67	IN
11/21/88														Ref Std	1.80	82.33	IN
11/22/88	133	15.52	15.28	1.55	Y	15.40	2.50	83.9	Y	< 0.051	0.25	102	Y	Ref Std	1.80	98.9	Y
11/22/88										< 0.051	0.25	90.8	Y	Ref Std	1.80	98.6	Y
11/22/88										< 0.051	0.25	100	Y	Ref Std	1.80	99.3	Y
11/22/88										< 0.051	0.25	90.8	Y	Ref Std	1.80	102	Y
11/22/88										< 0.051	0.25	89.6	Y	Ref Std	1.80	100	Y
11/22/88										< 0.051	0.25	92.0	Y	Ref Std	1.80	99.9	Y
11/22/88										< 0.051	0.25	50.4	IN	Ref Std	1.80	97.9	Y
11/22/88										< 0.051	0.25	97.6	Y	Ref Std	1.80	99.8	Y
11/22/88										< 0.051	0.25	103	Y	Ref Std	1.80	98.7	Y
11/22/88														Ref Std	1.80	100	Y
11/22/88														Ref Std	1.80	101	Y
11/22/88														Ref Std	1.80	102	Y
11/22/88														Ref Std	1.80	101	Y
11/22/88														Ref Std	1.80	103	Y

GTC LABORATORY QUALITY CONTROL REPORT

CUSTOMER: Clinton Bogart JOB#: Hackensack River Study PARAMETER: AMMONIA REPORT TYPE: JOB SPECIFIC QC
SAMPLING EVENT: NUMBER UNITS: mg/l

DATE OF ANALYSIS	SAMPLE NUMBER	PRECISION DUPLICATES Accept. Limits: AVG. RESULT	DUP. RESULT	% REL. DIFFERENCE	WITHIN LIMITS	MATRIX SPIKES Accept. Limits: AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	BLANK SPIKES Accept. Limits: METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REFERENCE STANDARDS Accept. Limits: REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
12/5/88	61	5.10	5.14	10.782	Y	5.12	2.50	111	Y	< 0.051	0.25	109	Y	Ref Std	1.80	102	Y
12/5/88	62	5.97	5.95	10.362	Y	5.96	2.50	108	Y	< 0.051	0.25	110	Y	Ref Std	1.80	99.0	Y
12/5/88	64	4.37	4.46	2.11	Y	4.41	2.50	110	Y	< 0.051	0.25	105	Y	Ref Std	1.80	101	Y
12/5/88	66	5.54	5.42	2.21	Y	5.48	2.50	99.7	Y	< 0.051	0.25	94.4	Y	Ref Std	1.80	98.9	Y
12/5/88	65	5.10	5.01	1.96	Y	5.05	2.50	113	Y	< 0.051	0.25	110	Y	Ref Std	1.80	101	Y
12/5/88	66	5.65	4.57	84.5	IN	5.21	2.50	139	IN	< 0.051	0.25	108	Y	Ref Std	1.80	99.2	Y
12/5/88	67	5.72	5.69	10.631	Y	5.70	2.50	100	Y	< 0.051	0.25	104	Y	Ref Std	1.80	103	Y
12/5/88	68	5.28	5.35	2.38	Y	5.29	2.50	109	Y	< 0.051	0.25	112	Y	Ref Std	1.80	101	Y
12/5/88	69	14.13	19.52	32.0	IN	16.82	2.50	N C	---	< 0.051	0.25	188	IN	Ref Std	1.80	102	Y
12/5/88	70	4.31	4.34	10.670	Y	4.33	2.50	108	Y	< 0.051	0.25	109	Y	Ref Std	1.80	103	Y
12/5/88	101	11.62	12.77	9.40	Y	12.19	2.50	126	Y	< 0.051	0.25	106	Y	Ref Std	1.80	103	Y
12/5/88	102	1.67	1.66	10.730	Y	1.67	2.50	109	Y	< 0.051	0.25	107	Y	Ref Std	1.80	101	Y
12/5/88	103	1.61	1.63	1.17	Y	1.62	2.50	109	Y	< 0.051	0.25	109	Y	Ref Std	1.80	102	Y
12/5/88	104	2.20	2.16	1.93	Y	2.18	2.50	111	Y	< 0.051	0.25	97.2	Y	Ref Std	1.80	103	Y
12/5/88														Ref Std	1.80	102	Y
12/5/88														Ref Std	1.80	103	Y
12/5/88														Ref Std	1.80	101	Y
12/5/88														Ref Std	1.80	103	Y
12/5/88														Ref Std	1.80	103	Y
12/5/88														Ref Std	1.80	55.4	IN
12/5/88														Ref Std	1.80	102	Y
12/5/88														Ref Std	1.80	102	Y
12/5/88														Ref Std	1.80	105	Y
12/5/88														Ref Std	1.80	78.3	IN
12/6/88	150	3.41	3.59	5.06	Y	3.50	2.50	95.9	Y	< 0.051	0.25	105	Y	Ref Std	1.80	104	Y
12/5/88	199	3.72	3.77	1.25	Y	3.75	2.50	112	Y	< 0.051	0.25	106	Y	Ref Std	1.80	98.2	Y
12/6/88	147	4.41	3.04	37.0	IN	3.72	2.50	74.2	Y	< 0.051	0.25	87.2	Y	Ref Std	1.80	98.2	Y
12/6/88	148	3.06	3.63	17.1	IN	3.34	2.50	91.1	Y	< 0.051	0.25	107	Y	Ref Std	1.80	98.2	Y
12/6/88	205	2.51	3.63	36.5	IN	3.07	2.50	86.6	Y	< 0.051	0.25	109	Y	Ref Std	1.80	98.1	Y
12/6/88	206	1.99	2.02	1.54	Y	2.01	2.50	97.7	Y	< 0.051	0.25	110	Y	Ref Std	1.80	98.6	Y
12/6/88	237	2.36	2.08	12.5	IN	2.22	2.50	108	Y	< 0.051	0.25	112	Y	Ref Std	1.80	99.2	Y
12/5/88	238	2.14	2.35	9.38	Y	2.25	2.50	110	Y	< 0.051	0.25	107	Y	Ref Std	1.80	100	Y
12/6/88	241	2.85	2.52	12.2	IN	2.69	2.50	91.3	Y	< 0.051	0.25	113	Y	Ref Std	1.80	97.6	Y
12/6/88	242	3.15	3.12	10.899	Y	3.14	2.50	111	Y	< 0.051	0.25	115	Y	Ref Std	1.80	100	Y
12/6/88	243	3.99	3.73	6.60	Y	3.86	2.50	106	Y	< 0.051	0.25	102	Y	Ref Std	1.80	99.5	Y
12/5/88	251	3.22	3.18	1.25	Y	3.20	2.50	104	Y	< 0.051	0.25	107	Y	Ref Std	1.80	103	Y
12/6/88	252	3.62	3.37	7.69	Y	3.50	2.50	105	Y	< 0.051	0.25	98.0	Y	Ref Std	1.80	99.8	Y
12/6/88	253	4.25	4.29	1.03	Y	4.27	2.50	105	Y	< 0.051	0.25	121	Y	Ref Std	1.80	100	Y
12/6/88	254	3.87	3.95	1.94	Y	3.91	2.50	105	Y	< 0.051	0.25	112	Y	Ref Std	1.80	101	Y
12/6/88	255	2.84	2.71	4.87	Y	2.77	2.50	100	Y	< 0.051	0.25	108	Y	Ref Std	1.80	99.9	Y
12/6/88														Ref Std	1.80	102	Y
12/6/88														Ref Std	1.80	101	Y
12/6/88														Ref Std	1.80	102	Y
12/5/88														Ref Std	1.80	102	Y
12/6/88														Ref Std	1.80	102	Y
														Ref Std	1.80	102	Y

		PRECISION (DUPLICATES)				MATRIX SPIKES				BLANK SPIKES				REFERENCE STANDARDS			
		Accept. Limits: 10				Accept. Limits: 75 - 125				Accept. Limits: 80 - 120				Accept. Limits: 86 - 110			
DATE OF ANALYSIS	MATRIX	ORG. RESULT	DUP. RESULT	% REL. ERROR	WITHIN LIMITS	AVG. RESULT	SPIKE ADDED	% REC.	WITHIN LIMITS	METHOD BLK.	SPIKE ADDED	% REC.	WITHIN LIMITS	REF. ID.	KNOWN VALUE	% REC.	WITHIN LIMITS
12-06-88														Ref Std	1.80	103	Y
12-6-88														Ref Std	1.80	103	Y
12-6-88														Ref Std	1.80	101	Y
12-6-88														Ref Std	1.80	102	Y
12-6-88														Ref Std	1.80	103	Y
12-6-88														Ref Std	1.80	102	Y
12-6-88														Ref Std	1.80	102	Y
12-10-88	SOIL	2.71	2.90	6.77	Y	2.81	2.50	88.4	Y	<0.05	0.25	69.2	N	Ref Std	1.80	95.7	Y
12-10-88	SOIL	2.66	2.65	0.914	Y	2.65	2.50	117	Y	<0.05	0.25	94.0	Y	Ref Std	1.80	97.9	Y
12-10-88	SOIL	2.36	2.34	0.85	Y	2.37	2.50	91.2	N	<0.05	0.25	79.2	N	Ref Std	1.80	94.0	Y
12-10-88														Ref Std	1.80	97.1	Y
12-10-88														Ref Std	1.80	97.8	Y
12-10-88														Ref Std	1.80	99.2	Y