

Table 3.5.16 Water Quality Data of Mukuvisi River

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	27/2/90	-	1.00	5.0	TR	NIL	0.007	6.18	20.0	20.0	54.0	0.01	5.50
L. Kariba	27/2/90	-	1.00	10.0	1.020	0.005	NIL	3.70	NIL	460.0	1100.0	0.26	7.60
Msasa RD	27/2/90	-	0.80	14.0	1.600	0.006	0.003	4.95	4.0	128.0	400.0	0.06	4.50
Widd RD	27/2/90	-	1.20	19.0	0.090	NIL	NIL	6.72	12.0	132.0	400.0	0.26	5.40
Hartfield RD	27/2/90	-	1.20	23.0	0.320	0.023	0.009	6.77	20.0	148.0	425.0	0.07	5.80
Cripps RD	27/2/90	-	3.40	30.0	0.490	0.810	0.060	6.98	60.0	154.0	480.0	0.24	4.90
Boshoff RD	27/2/90	-	0.60	27.0	0.370	0.120	0.030	6.99	60.0	146.0	440.0	0.13	5.00
Beatrice RD	27/2/90	-	0.60	27.0	0.120	0.490	0.031	6.26	14.0	172.0	475.0	0.32	6.80
Amalinda	27/2/90	-	2.60	26.0	0.120	0.022	0.005	6.66	22.0	144.0	825.0	0.27	6.70
At Manyame	27/2/90	-	4.20	40.0	1.960	0.085	0.470	7.08	76.0	126.0	500.0	0.01	3.10
Mutare RD	14/8/90	-	1.20	11.0	STR	STR	0.017	6.50		40.0	150.0	0.04	0.60
L. Kariba	14/8/90	-	2.60	51.0	3.240	0.014	0.035	3.60	NIL	800.0	2030.0	2.84	8.60
Msasa RD	14/8/90	-	5.20	67.0	1.680	0.009	0.030	3.53	NIL	280.0	1340.0	0.84	0.10
Widd RD	14/8/90	-	0.60	43.0	STR	STR	0.025	6.28	42.0	160.0	450.0	0.09	7.20
Hartfield RD	14/8/90	-	1.40	41.0	0.660	0.060	0.046	6.02	102.0	180.0	550.0	0.06	2.90
Cripps RD	14/8/90	-	3.40	41.0	0.480	0.098	0.052	7.12	122.0	160.0	560.0	0.08	3.80
Boshoff RD	14/8/90	-	2.80	38.0	0.380	0.050	0.032	7.23	144.0	160.0	570.0	0.08	5.80
Beatrice RD	14/8/90	-	0.80	45.0	STR	TR	0.104	7.41	108.0	160.0	650.0	0.12	6.30
Amalinda	14/8/90	-	3.80	45.0	0.340	0.015	0.050	7.20	104.0	160.0	550.0	0.05	2.50
At Manyame	14/8/90	-	5.20	33.0	1.840	0.860	0.264	7.27	138.0	120.0	710.0	0.13	2.70
Mutare RD	12/2/91	-	4.00	5.0	0.220	TR	0.068	6.26	45.0	140.0	750.0	0.03	1.30
L. Kariba	12/2/91	-	2.20	15.0	1.080	STR	0.010	3.82	NIL	640.0	145.0	0.14	8.00
Msasa RD	12/2/91	-	5.80	35.0	4.850	0.021	0.021	3.36	NIL	440.0	155.0	0.30	0.30
Widd RD	12/2/91	-	2.00	25.0	1.720	0.014	0.019	5.33	NIL	320.0	800.0	0.12	4.00
Hartfield RD	12/2/91	-	1.60	65.0	0.960	0.044	0.016	6.35	45.0	260.0	700.0	0.03	4.80
Cripps RD	12/2/91	-	2.00	25.0	1.200	0.086	0.040	6.75	70.0	260.0	660.0	0.26	4.40
Boshoff RD	12/2/91	-	2.60	15.0	0.960	0.132	0.068	6.98	65.0	240.0	630.0	0.23	4.30
Beatrice RD	12/2/91	-	2.60	15.0	0.940	0.059	0.022	5.96	10.0	340.0	870.0	0.99	7.40
Amalinda	12/2/91	-	3.20	15.0	0.640	0.032	0.007	5.80	10.0	360.0	830.0	1.15	2.30
At Manyame	12/2/91	-	6.20	60.0	1.940	0.033	0.007	6.92	110.0	220.0	820.0	0.63	5.80

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity µS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	7/5/91	-	1.60	4.0	0.180	NIL	NIL	6.55	84.0	54.0	160.0	0.02	1.80
L. Kariba	7/5/91	-	1.40	39.0	1.700	0.007	0.091	3.76	NIL	950.0	230.0	0.12	4.20
Msasa RD	7/5/91	-	2.40	47.0	4.400	TR	0.043	3.63	NIL	330.0	1310.0	0.08	2.30
Widd RD	7/5/91	-	1.40	29.0	TR	NIL	TR	6.56	50.0	170.0	540.0	0.02	5.30
Hartfield RD	7/5/91	-	2.20	44.0	0.840	0.064	0.086	6.96	132.0	478.0	590.0	0.02	1.30
Cripps RD	7/5/91	-	2.80	42.0	0.450	0.072	0.128	7.17	136.0	150.0	520.0	0.01	3.60
Boshoff RD	7/5/91	-	2.40	42.0	0.130	0.043	0.077	7.26	126.0	156.0	530.0	0.05	3.50
Beatrice RD	7/5/91	-	2.00	43.0	TR	NIL	0.011	7.51	120.0	154.0	520.0	0.09	6.10
Amalinda	7/5/91	-	2.40	142.0	TR	NIL	0.008	7.26	136.0	160.0	850.0	0.12	1.50
At Manyame	7/5/91	-	7.00	85.0	6.600	0.012	0.010	7.36	180.0	108.0	750.0	1.48	1.30
Mutare RD	13/8/91	-	1.60	7.0	0.080	TR	0.031	6.49	40.0	40.0	130.0	0.06	2.10
L. Kariba	13/8/91	-	1.80	10.0	0.500	TR	0.035	4.16	NIL	890.0	2000.0	0.32	7.20
Msasa RD	13/8/91	-	4.00	36.0	1.050	0.005	0.044	3.96	NIL	350.0	1400.0	2.12	4.10
Widd RD	13/8/91	-	1.00	28.0	0.070	TR	0.016	6.74	61.0	236.0	550.0	0.02	5.60
Hartfield RD	13/8/91	-	2.00	48.0	0.360	0.096	0.014	6.98	116.0	200.0	590.0	0.20	4.20
Cripps RD	13/8/91	-	2.40	42.0	0.100	0.100	0.016	7.13	124.0	154.0	500.0	0.26	4.50
Boshoff RD	13/8/91	-	2.20	42.0	0.090	0.020	0.001	7.26	132.0	160.0	510.0	0.04	5.40
Beatrice RD	13/8/91	-	1.80	42.0	0.080	TR	TR	7.52	134.0	165.0	580.0	0.72	6.90
Amalinda	13/8/91	-	2.40	52.0	0.410	TR	TR	8.78	150.0	158.0	570.0	1.88	1.50
At Manyame	13/8/91	-	11.00	91.0	5.000	0.005	0.008	7.49	200.0	135.0	770.0	1.00	1.40
Mutare RD	27/11/91	-	1.20	13.0	0.190	NIL	0.040	6.72	54.0	60.0	150.0	0.03	2.10
L. Kariba	27/11/91	-	3.60	43.0	1.580	0.098	1.550	6.12	10.0	430.0	190.0	0.66	7.10
Msasa RD	27/11/91	-	9.40	61.0	23.000	TR	2.400	4.28	NIL	530.0	1590.0	0.44	0.80
Widd RD	27/11/91	-	2.00	52.0	0.090	NIL	0.190	6.52	36.0	375.0	1100.0	0.04	3.20
Hartfield RD	27/11/91	-	3.20	42.0	1.120	0.180	0.040	7.07	144.0	276.0	790.0	0.37	2.00
Cripps RD	27/11/91	-	5.20	46.0	1.260	0.120	0.150	7.21	170.0	175.0	600.0	0.33	1.60
Boshoff RD	27/11/91	-	3.00	43.0	0.320	0.150	0.110	7.30	152.0	150.0	580.0	0.02	3.70
Beatrice RD	27/11/91	-	2.40	40.0	0.080	0.100	0.080	7.28	120.0	220.0	590.0	0.48	3.30
Amalinda	27/11/91	-	2.80	43.0	0.250	0.130	0.090	7.17	100.0	155.0	500.0	0.37	1.80
At Manyame	27/11/91	-	8.80	71.0	21.000	0.320	0.140	7.42	220.0	125.0	750.0	0.52	3.70

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	11/2/92	-	5.00	18.0	0.140	0.014	0.052	6.83	66.0	1200.0	80.0	0.07	3.50
L. Kariba	11/2/92	-	2.00	37.0	5.000	0.025	0.129	4.23	NIL	1225.0	500.0	0.07	5.80
Msasa RD	11/2/92	-	19.40	37.0	1.500	0.013	0.001	6.63	98.0	600.0	260.0	0.74	2.10
Widd RD	11/2/92	-	11.00	52.0	0.130	0.008	0.015	6.72	62.0	800.0	175.0	0.29	0.50
Hartfield RD	11/2/92	-	2.40	60.0	1.300	0.075	0.014	7.34	158.0	1000.0	500.0	0.11	1.00
Cripps RD	11/2/92	-	3.20	46.0	0.630	0.073	0.067	7.45	124.0	750.0	300.0	0.40	2.50
Boshoff RD	11/2/92	-	3.40	43.0	0.310	0.068	0.015	7.48	128.0	550.0	180.0	0.11	3.10
Beatrice RD	11/2/92	-	2.60	40.0	TR	0.008	0.011	7.68	120.0	525.0	210.0	0.20	4.00
Amalinda	11/2/92	-	5.20	72.0	0.710	0.022	0.037	7.38	150.0	540.0	150.0	0.64	0.40
At Manyame	11/2/92	-	6.00	83.0	2.800	0.350	0.200	7.50	140.0	600.0	220.0	1.14	2.90
Mutare RD	2/6/92	-	3.60	31.0	TR	0.009	0.004	6.95	90.0	275.0	80.0	0.05	2.90
L. Kariba	2/6/92	-	2.40	39.0	8.200	0.006	0.088	3.30	NIL	2500.0	860.0	0.18	7.10
Msasa RD	2/6/92	-	10.40	45.0	0.580	STR	0.008	6.92	180.0	590.0	280.0	0.38	1.80
Widd RD	2/6/92	-	4.00	55.0	0.110	STR	0.045	6.81	80.0	870.0	335.0	0.14	3.10
Hartfield RD	2/6/92	-	2.40	69.0	1.740	0.038	NIL	7.29	180.0	710.0	215.0	0.20	1.60
Cripps RD	2/6/92	-	3.40	71.0	0.870	0.053	NIL	7.57	160.0	630.0	260.0	0.06	3.80
Boshoff RD	2/6/92	-	3.00	69.0	0.400	0.066	NIL	7.50	150.0	630.0	260.0	0.16	3.40
Beatrice RD	2/6/92	-	6.80	39.0	0.230	0.008	0.006	7.17	130.0	550.0	262.0	0.09	3.80
Amalinda	2/6/92	-	4.60	75.0	0.170	0.007	0.007	7.51	150.0	650.0	275.0	0.23	3.20
At Manyame	2/6/92	-	5.40	125.0	5.600	0.290	0.045	7.55	190.0	710.0	145.0	1.10	2.80
Mutare RD	31/7/92	-	1.80	34.0	0.130	NIL	0.001	7.11	30.0	35.0	95.0	0.20	6.40
L. Kariba	31/7/92	-	1.60	66.0	1.260	0.008	0.017	5.91	20.0	103.0	350.0	0.30	9.20
Msasa RD	31/7/92	-	NO SAMPLE										
Widd RD	31/7/92	-	4.40	34.0	TR	NIL	0.010	6.86	100.0	660.0	285.0	0.24	0.40
Hartfield RD	31/7/92	-	2.80	70.0	1.120	0.080	0.010	7.22	200.0	670.0	220.0	0.04	0.30
Cripps RD	31/7/92	-	2.40	58.0	0.500	0.088	0.004	7.47	140.0	600.0	155.0	0.02	4.30
Boshoff RD	31/7/92	-	2.00	58.0	TR	0.074	0.008	7.60	170.0	610.0	160.0	0.36	3.60
Beatrice RD	31/7/92	-	2.20	58.0	NIL	0.006	0.006	7.67	150.0	610.0	165.0	0.08	4.30
Amalinda	31/7/92	-	2.60	74.0	NIL	0.044	0.006	7.57	170.0	660.0	170.0	0.32	2.90
At Manyame	31/7/92	-	6.00	122.0	7.000	0.250	0.001	7.95	160.0	1050.0	150.0	1.44	0.70

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	m ³ /day	ppm	mg/L	mg/L	mg/L	mg/L		mg/L	uS/cm		mg/L	mg/L
		Flow	Oxygen Absorbed	Chloride	Ammonia Nitrogen	Nitrite	Nitrate	pH	T-Alkalinity	Electric Conductivity	Total Hardness	Phosphate	Dissolved Oxygen
Mutare RD	2/11/92	-	4.80	57.0	0.470	0.300	NIL	9.06	100.0	450.0	123.0	0.10	4.60
L. Kariba	2/11/92	-	NO SAMPLE										
Msasa RD	2/11/92	-	17.20	83.0	0.300	NIL	TR	7.38	230.0	1100.0	280.0	0.76	3.00
Widd RD	2/11/92	-	NO SAMPLE										
Hartfield RD	2/11/92	-	3.40	61.0	0.220	0.095	NIL	7.26	170.0	560.0	161.0	0.07	0.40
Cripps RD	2/11/92	-	4.60	69.0	0.290	0.086	0.154	7.47	150.0	730.0	132.0	0.05	2.50
Boshoff RD	2/11/92	-	1.40	67.0	0.330	NIL	0.013	7.44	160.0	670.0	131.0	0.06	3.50
Beatrice RD	2/11/92	-	3.20	77.0	0.100	NIL	0.023	7.62	190.0	740.0	132.0	0.16	2.70
Amalinda	2/11/92	-	4.80	89.0	0.640	0.058	NIL	7.50	220.0	850.0	160.0	0.28	1.30
At Manyame	2/11/92	-	2.60	137.0	0.700	0.057	0.005	7.45	220.0	1150.0	132.0	1.03	0.70
Mutare RD	1/12/92	-	8.40	61.0	0.200	0.014	0.020	6.87	170.0	550.0	134.0	0.18	0.50
L. Kariba	1/12/92	-	NO SAMPLE										
Msasa RD	1/12/92	-	21.60	53.0	0.390	NIL	TR	6.52	130.0	700.0	194.0	0.43	NIL
Widd RD	1/12/92	-	NO SAMPLE										
Hartfield RD	1/12/92	-	2.80	59.0	TR	TR	0.010	7.15	170.0	620.0	162.0	0.16	0.90
Cripps RD	1/12/92	-	3.00	67.0	0.740	0.027	0.080	7.38	160.0	660.0	128.0	0.16	1.10
Boshoff RD	1/12/92	-	5.40	71.0	0.420	0.004	0.020	7.38	170.0	670.0	154.0	0.70	2.00
Beatrice RD	1/12/92	-	7.40	55.0	NIL	0.006	0.010	7.32	130.0	560.0	142.0	0.72	1.90
Amalinda	1/12/92	-	7.20	79.0	0.250	0.010	0.010	7.32	170.0	700.0	150.0	0.59	2.10
At Manyame	1/12/92	-	10.20	131.0	18.000	0.200	NIL	7.59	260.0	1180.0	168.0	1.82	3.20
Mutare RD	7/1/93	-	6.00	13.0	0.180	NIL	0.012	5.93	16.0	125.0	40.0	0.02	NIL
L. Kariba	7/1/93	-	4.00	27.0	1.940	0.012	0.390	3.78	NIL	179.0	900.0	0.64	6.60
Msasa RD	7/1/93	-	3.80	117.0	65.000	0.070	0.430	4.27	NIL	205.0	585.0	0.19	3.40
Widd RD	7/1/93	-	1.80	53.0	16.200	0.090	1.910	5.05	2.0	155.0	170.0	0.07	3.20
Hartfield RD	7/1/93	-	1.80	55.0	12.800	0.110	1.440	5.98	12.0	1260.0	450.0	0.05	4.70
Cripps RD	7/1/93	-	2.40	55.0	10.000	0.110	0.890	6.46	24.0	1130.0	405.0	0.04	5.30
Boshoff RD	7/1/93	-	2.20	55.0	8.700	0.220	0.680	6.49	24.0	1050.0	370.0	0.03	4.60
Beatrice RD	7/1/93	-	2.40	47.0	2.120	0.320	0.380	6.82	32.0	840.0	273.0	0.04	4.90
Amalinda	7/1/93	-	2.20	73.0	0.210	0.120	0.880	6.95	40.0	500.0	150.0	0.10	4.40
At Manyame	7/1/93	-	7.00	67.0	3.200	0.210	0.290	7.33	180.0	640.0	145.0	0.92	3.90

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	1/2/93	-	6.60	15.0	0.210	STR	0.010	6.48	140.0	70.0	58.0	0.06	NIL
L. Kariba	1/2/93	-	4.40	43.0	0.400	0.013	0.610	4.22	NIL	1430.0	170.0	1.90	6.80
Msasa RD	1/2/93	-	7.00	61.0	4.400	0.020	0.280	6.67	60.0	640.0	310.0	0.43	1.80
Widd RD	1/2/93	-	3.00	97.0	9.800	0.018	0.800	5.15	30.0	1320.0	1050.0	0.09	3.30
Hartfield RD	1/2/93	-	2.60	101.0	3.700	0.034	0.870	6.37	70.0	750.0	400.0	0.10	3.90
Cripps RD	1/2/93	-	3.00	73.0	3.300	0.032	0.770	6.96	60.0	640.0	250.0	0.05	5.30
Boshoff RD	1/2/93	-	3.20	53.0	1.450	0.082	0.640	7.00	70.0	500.0	300.0	0.04	5.00
Beatrice RD	1/2/93	-	3.20	41.0	0.370	0.041	0.580	7.20	50.0	390.0	170.0	0.29	5.60
Amalinda	1/2/93	-	4.00	53.0	0.250	0.029	0.140	7.31	50.0	460.0	206.0	0.20	4.60
At Manyame	1/2/93	-	6.00	61.0	0.740	0.045	0.090	7.65	70.0	490.0	182.0	0.57	4.70
Mutare RD	5/4/93	-	4.40	9.0	TR	0.005	TR	6.38	30.0	90.0	29.0	0.13	1.00
L. Kariba	5/4/93	-	3.20	41.0	2.700	0.006	0.170	3.69	NIL	1460.0	1100.0	5.32	3.50
Msasa RD	5/4/93	-	3.20	35.0	1.800	0.005	0.065	5.90	40.0	550.0	500.0	1.19	3.10
Widd RD	5/4/93	-	0.80	35.0	0.100	TR	0.025	5.87	20.0	550.0	450.0	0.44	3.70
Hartfield RD	5/4/93	-	1.60	47.0	1.350	0.031	0.010	6.68	50.0	550.0	300.0	0.13	4.70
Cripps RD	5/4/93	-	2.20	53.0	1.800	0.051	0.015	7.42	100.0	520.0	300.0	0.04	4.30
Boshoff RD	5/4/93	-	1.20	67.0	0.800	0.108	0.092	6.95	110.0	520.0	500.0	0.74	5.60
Beatrice RD	5/4/93	-	2.00	51.0	0.320	0.104	0.126	7.13	60.0	520.0	400.0	1.23	6.00
Amalinda	5/4/93	-	2.00	43.0	0.180	0.014	0.048	7.00	70.0	500.0	350.0	1.23	4.30
At Manyame	5/4/93	-	9.60	79.0	9.400	0.200	NIL	7.17	210.0	630.0	450.0	2.92	3.40
Mutare RD	6/6/93	-	17.00	17.0	0.330	TR	0.049	6.32	6.0	110.0	120.0	0.09	NIL
L. Kariba	6/6/93	-	2.00	45.0	4.700	0.016	0.474	3.68	NIL	1550.0	900.0	3.20	7.50
Msasa RD	6/6/93	-	23.00	-	3.800	0.018	0.412	3.55	NIL	2000.0	650.0	3.00	NIL
Widd RD	6/6/93	-	1.20	61.0	0.150	NIL	0.150	5.84	NIL	600.0	290.0	0.09	3.00
Hartfield RD	6/6/93	-	0.80	69.0	3.350	0.014	0.210	6.94	120.0	600.0	260.0	0.08	3.70
Cripps RD	6/6/93	-	1.20	57.0	1.750	0.145	0.215	7.27	120.0	450.0	210.0	0.16	4.80
Boshoff RD	6/6/93	-	1.60	65.0	1.450	0.081	0.210	7.22	130.0	480.0	200.0	0.07	4.00
Beatrice RD	6/6/93	-	1.80	53.0	TR	NIL	0.210	7.58	120.0	470.0	200.0	0.23	7.70
Amalinda	6/6/93	-	1.40	59.0	TR	TR	0.170	7.32	120.0	450.0	190.0	0.24	5.20
At Manyame	6/6/93	-	3.80	111.0	13.200	0.112	0.138	7.38	220.0	750.0	170.0	2.72	3.00

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity µS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	23/8/93	-	3.20	15.0	0.120	NIL	0.028	6.84	100.0	120.0	48.0	0.23	4.90
L. Kariba	23/8/93	-	NO SAMPLE										
Msasa RD	23/8/93	-	24.80	63.0	0.015	TR	0.035	6.19	20.0	660.0	264.0	0.23	NIL
Widd RD	23/8/93	-	2.40	39.0	0.013	TR	0.022	6.86	100.0	480.0	197.0	0.31	3.80
Hartfield RD	23/8/93	-	3.00	67.0	0.900	0.160	0.012	7.24	150.0	575.0	208.0	0.44	1.00
Cripps RD	23/8/93	-	3.40	69.0	2.350	0.046	0.036	7.68	180.0	560.0	184.0	0.88	6.10
Boshoff RD	23/8/93	-	3.20	65.0	1.250	0.067	0.047	7.57	170.0	550.0	-	0.38	4.20
Beatrice RD	23/8/93	-	3.00	65.0	0.120	NIL	0.027	7.75	160.0	550.0	182.0	0.90	6.90
Amalinda	23/8/93	-	5.00	73.0	0.280	NIL	0.015	7.52	180.0	550.0	176.0	1.14	2.20
At Manyame	23/8/93	-	10.60	109.0	9.000	0.104	0.108	7.63	220.0	800.0	138.0	2.24	2.50
Mutare RD	1/11/93	-	15.80	11.0	0.320	TR	0.050	6.54	110.0	100.0	82.0	0.01	NIL
L. Kariba	1/11/93	-	4.40	63.0	0.300	0.006	0.022	3.46	NIL	1650.0	585.0	0.37	5.60
Msasa RD	1/11/93	-	18.00	65.0	13.000	TR	0.018	4.64	20.0	1375.0	470.0	4.52	NIL
Widd RD	1/11/93	-	NO SAMPLE										
Hartfield RD	1/11/93	-	3.60	47.0	0.430	0.008	0.015	7.23	190.0	600.0	176.0	0.05	1.50
Cripps RD	1/11/93	-	4.20	59.0	1.400	0.067	0.023	7.57	180.0	550.0	180.0	0.05	4.90
Boshoff RD	1/11/93	-	3.60	55.0	1.620	0.007	0.013	7.48	220.0	550.0	170.0	0.08	4.70
Beatrice RD	1/11/93	-	7.40	55.0	0.370	STR	0.009	7.57	240.0	550.0	230.0	0.27	4.40
Amalinda	1/11/93	-	6.00	73.0	0.490	0.006	0.004	7.35	330.0	600.0	190.0	0.33	1.50
At Manyame	1/11/93	-	14.80	111.0	19.000	0.004	0.011	7.58	270.0	1050.0	140.0	4.52	1.90
Mutare RD	11/1/94	-	5.00	143.0	1.580	0.074	0.064	6.51	NIL	79.0	360.0	0.14	NIL
L. Kariba	11/1/94	-	2.20	143.0	5.900	0.021	0.085	5.34	NIL	1050.0	440.0	0.01	7.50
Msasa RD	11/1/94	-	25.80	119.0	2.600	0.011	0.082	6.25	NIL	600.0	260.0	7.40	NIL
Widd RD	11/1/94	-	4.00	123.0	5.400	0.010	0.084	3.77	NIL	1450.0	700.0	1.60	3.00
Hartfield RD	11/1/94	-	14.80	53.0	0.240	0.006	0.060	6.45	80.0	160.0	110.0	0.04	3.70
Cripps RD	11/1/94	-	2.60	155.0	0.440	0.044	0.076	7.22	100.0	700.0	280.0	0.06	4.70
Boshoff RD	11/1/94	-	2.40	135.0	3.400	0.034	0.102	7.00	70.0	740.0	260.0	0.12	3.60
Beatrice RD	11/1/94	-	1.80	131.0	TR	0.011	0.239	7.53	NIL	700.0	250.0	1.84	7.50
Amalinda	11/1/94	-	12.40	141.0	TR	NIL	0.230	6.77	30.0	640.0	250.0	0.42	5.20
At Manyame	11/1/94	-	10.20	207.0	8.400	0.015	0.200	7.40	190.0	800.0	180.0	2.16	0.90

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	26/4/94	-	NO SAMPLE										
L.Kariba	26/4/94	-	6.40	67.0	1.840	0.008	0.108	3.22	NIL	1560.0	152.0	0.01	0.10
Msasa RD	26/4/94	-	14.80	57.0	0.390	0.014	0.159	6.06	80.0	450.0	50.0	0.01	0.10
Widd RD	26/4/94	-	2.40	53.0	STR	NIL	0.080	5.90	30.0	650.0	60.0	0.88	3.70
Hartfield RD	26/4/94	-	3.40	87.0	1.900	0.130	0.044	6.80	140.0	600.0	460.0	0.07	2.40
Cripps RD	26/4/94	-	4.40	72.0	2.200	0.180	0.130	6.94	80.0	550.0	38.0	0.04	3.10
Boshoff RD	26/4/94	-	4.00	87.0	0.660	0.055	0.039	6.92	130.0	490.0	36.0	0.09	2.30
Beatrice RD	26/4/94	-	5.60	97.0	0.250	0.080	0.006	7.12	120.0	475.0	34.0	0.04	1.40
Amalinda	26/4/94	-	7.20	152.0	0.150	0.200	0.040	6.92	100.0	360.0	30.0	0.06	4.40
At Manyame	26/4/94	-	5.80	82.0	1.360	0.150	0.018	7.20	110.0	330.0	20.0	1.20	5.40
Mutare RD	30/8/94	-	3.60	25.0	0.520	STR	0.124	6.46	40.0	180.0	130.0	0.14	3.70
L.Kariba	30/8/94	-	7.60	223.0	15.200	STR	0.750	3.01	NIL	3900.0	980.0	2.46	6.50
Msasa RD	30/8/94	-	6.60	115.0	8.300	0.005	0.205	3.48	NIL	1800.0	600.0	1.02	1.30
Widd RD	30/8/94	-	7.40	53.0	0.430	NIL	0.096	6.66	90.0	550.0	280.0	1.60	3.40
Hartfield RD	30/8/94	-	5.80	63.0	2.800	0.016	0.119	6.98	110.0	640.0	258.0	1.32	1.90
Cripps RD	30/8/94	-	40.00	61.0	32.000	0.017	0.225	7.13	140.0	575.0	210.0	2.22	3.80
Boshoff RD	30/8/94	-	5.20	89.0	1.080	NIL	0.250	7.25	280.0	980.0	220.0	11.10	NIL
Beatrice RD	30/8/94	-	15.20	79.0	17.600	NIL	0.105	7.16	240.0	780.0	800.0	1.62	NIL
Amalinda	30/8/94	-	12.20	83.0	8.800	NIL	0.054	7.22	230.0	740.0	620.0	4.54	NIL
At Manyame	30/8/94	-	17.80	119.0	22.500	STR	0.230	7.29	260.0	1060.0	215.0	1.54	NIL
Mutare RD	3/10/94	-	1.80	27.0	1.280	NIL	0.090	6.21	150.0	-	80.0	0.16	0.80
L.Kariba	3/10/94	-	9.60	217.0	13.800	0.012	0.005	2.87	NIL	-	670.0	1.48	2.50
Msasa RD	3/10/94	-	NO SAMPLE										
Widd RD	3/10/94	-	2.60	37.0	15.000	STR	0.270	6.59	110.0	-	235.0	0.22	1.80
Hartfield RD	3/10/94	-	1.60	57.0	3.400	0.013	0.065	6.88	200.0	-	190.0	0.18	0.30
Cripps RD	3/10/94	-	2.60	57.0	3.200	0.055	0.108	7.00	160.0	-	190.0	0.22	1.70
Boshoff RD	3/10/94	-	4.40	67.0	14.500	STR	0.030	7.06	200.0	-	190.0	0.16	1.60
Beatrice RD	3/10/94	-	5.80	67.0	3.000	0.032	0.023	7.13	250.0	-	190.0	0.42	1.20
Amalinda	3/10/94	-	17.60	97.0	3.600	0.010	0.038	7.14	200.0	-	210.0	0.70	2.10
At Manyame	3/10/94	-	14.60	107.0	28.500	TR	0.066	7.25	280.0	-	180.0	2.82	1.70

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	3/11/94	-	3.00	57.0	0.110	0.010	0.013	6.57	100.0	350.0	105.0	0.72	2.50
L.Kariba	3/11/94	-	28.00	147.0	9.800	0.010	0.081	2.77	NIL	5200.0	475.0	0.06	NIL
Msasa RD	3/11/94	-	9.00	47.0	1.440	STR	0.040	6.84	100.0	650.0	190.0	0.52	NIL
Widd RD	3/11/94	-	2.00	97.0	0.470	0.006	0.024	6.83	30.0	950.0	370.0	1.32	4.00
Hartfield RD	3/11/94	-	3.20	47.0	0.480	0.027	0.064	7.22	100.0	700.0	275.0	0.81	4.50
Cripps RD	3/11/94	-	3.00	73.0	0.900	0.047	0.076	7.27	120.0	650.0	230.0	0.96	3.70
Boshoff RD	3/11/94	-	3.40	77.0	0.730	0.045	0.075	0.18	120.0	650.0	225.0	0.48	4.00
Beatrice RD	3/11/94	-	4.40	57.0	TR	0.098	0.020	7.39	80.0	500.0	185.0	0.76	4.30
Amalinda	3/11/94	-	5.60	61.0	TR	0.099	0.257	7.42	80.0	450.0	135.0	1.28	3.50
At Manyame	3/11/94	-	12.20	105.0	17.000	0.018	0.025	7.59	210.0	800.0	155.0	1.23	1.00
Mutare RD	29/12/94	-	6.40	47.0	0.150	TR	0.600	6.62	60.0	350.0	135.0	0.24	NIL
L.Kariba	29/12/94	-	17.80	247.0	8.800	0.025	0.095	2.60	NIL	5000.0	1200.0	1.20	NIL
Msasa RD	29/12/94	-	38.80	47.4	2.720	0.028	0.066	6.23	120.0	650.0	265.0	2.60	NIL
Widd RD	29/12/94	-	5.20	87.0	2.720	0.380	0.420	6.19	80.0	1400.0	515.0	0.84	NIL
Hartfield RD	29/12/94	-	3.60	77.0	19.500	0.390	1.110	6.41	50.0	1100.0	400.0	0.28	4.30
Cripps RD	29/12/94	-	3.00	77.0	49.000	0.290	0.810	6.40	60.0	920.0	345.0	0.04	4.90
Boshoff RD	29/12/94	-	2.80	67.0	95.000	0.270	0.330	6.72	60.0	825.0	310.0	0.40	3.80
Beatrice RD	29/12/94	-	2.60	47.0	0.830	0.250	0.200	6.66	20.0	450.0	205.0	0.16	5.50
Amalinda	29/12/94	-	4.20	57.0	0.610	0.250	0.380	6.78	60.0	500.0	210.0	0.40	5.20
At Manyame	29/12/94	-	7.80	67.0	14.000	0.450	0.080	7.08	100.0	500.0	190.0	1.16	5.40
Mutare RD	23/2/95	-	7.60	37.0	0.110	TR	0.220	6.87	120.0	300.0	100.0	0.06	1.60
L.Kariba	23/2/95	-	5.40	169.0	7.100	0.008	0.067	4.13	NIL	375.0	1060.0	1.00	3.60
Msasa RD	23/2/95	-	2.20	89.0	1.760	0.032	0.005	7.10	150.0	725.0	160.0	3.22	NIL
Widd RD	23/2/95	-	2.00	91.0	4.200	TR	0.550	6.45	40.0	1300.0	480.0	0.12	1.70
Hartfield RD	23/2/95	-	4.40	75.0	13.000	0.090	0.005	7.34	115.0	850.0	275.0	0.02	2.80
Cripps RD	23/2/95	-	2.60	77.0	9.000	0.285	0.045	6.94	160.0	750.0	200.0	0.16	2.50
Boshoff RD	23/2/95	-	21.00	71.0	1.600	0.250	0.025	7.84	160.0	750.0	200.0	0.08	2.80
Beatrice RD	23/2/95	-	6.80	59.0	TR	0.006	0.050	8.02	120.0	675.0	185.0	0.20	6.50
Amalinda	23/2/95	-	15.00	81.0	2.200	0.010	0.041	7.58	140.0	700.0	185.0	0.14	1.20
At Manyame	23/2/95	-	12.80	109.0	17.000	STR	1.200	7.80	290.0	1050.0	150.0	1.38	NIL

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	28/4/95	-	26.50	19.0	0.340	STR	0.006	6.48	140.0	290.0	95.0	0.04	0.75
L. Kariba	28/4/95	-	NO SAMPLE										
Msasa RD	28/4/95	-	25.60	81.0	6.200	0.049	0.001	6.70	110.0	850.0	180.0	0.06	0.25
Widd RD	28/4/95	-	5.80	75.0	0.320	0.006	0.001	6.70	120.0	750.0	190.0	0.09	NIL
Hartfield RD	28/4/95	-	2.80	75.0	0.530	0.120	NIL	7.03	160.0	750.0	195.0	0.11	0.50
Cripps RD	28/4/95	-	2.50	72.0	0.300	0.110	NIL	7.18	150.0	720.0	170.0	0.02	2.50
Boshoff RD	28/4/95	-	2.50	73.0	0.270	0.060	0.054	7.29	160.0	740.0	170.0	0.06	3.05
Beatrice RD	28/4/95	-	2.10	73.0	NIL	TR	0.007	7.32	160.0	730.0	170.0	0.11	NIL
Amalinda	28/4/95	-	3.80	81.0	NIL	TR	0.005	7.30	160.0	750.0	180.0	0.12	3.40
At Manyame	28/4/95	-	13.40	121.0	10.800	TR	0.004	7.23	270.0	1130.0	170.0	0.18	NIL
Mutare RD	10/7/95	-	NO SAMPLE										
L. Kariba	10/7/95	-	NO SAMPLE										
Msasa RD	10/7/95	-	2.60	81.0	0.420	0.046	0.150	6.75	70.0	660.0	146.0	2.44	0.65
Widd RD	10/7/95	-	7.00	57.0	0.160	0.010	0.012	6.86	100.0	650.0	230.0	NIL	NIL
Hartfield RD	10/7/95	-	2.40	83.0	0.350	0.050	0.006	7.09	100.0	680.0	182.0	0.32	1.80
Cripps RD	10/7/95	-	3.20	79.0	0.090	0.084	0.002	7.16	250.0	650.0	160.0	2.20	2.80
Boshoff RD	10/7/95	-	2.00	83.0	TR	0.043	0.034	7.26	200.0	700.0	166.0	0.16	3.70
Beatrice RD	10/7/95	-	2.30	77.0	0.120	0.028	0.042	7.47	130.0	650.0	148.0	0.62	7.00
Amalinda	10/7/95	-	1.80	87.0	TR	0.031	0.012	7.35	170.0	690.0	152.0	0.80	5.30
At Manyame	10/7/95	-	NO SAMPLE										
Mutare RD	15/8/95	-	NO SAMPLE										
L. Kariba	15/8/95	-	4.80	261.0	0.650	0.128	NIL	6.22	60.0	1000.0	1000.0	0.21	5.50
Msasa RD	15/8/95	-	22.40	87.0	1.880	0.010	NIL	6.88	160.0	1000.0	2200.0	2.61	NIL
Widd RD	15/8/95	-	14.70	57.0	0.160	TR	0.030	7.11	140.0	2200.0	1000.0	0.24	3.60
Hartfield RD	15/8/95	-	4.10	85.0	0.640	0.061	0.075	7.17	180.0	1000.0	1000.0	0.07	1.10
Cripps RD	15/8/95	-	1.80	81.0	0.820	0.245	NIL	7.26	190.0	1000.0	1000.0	0.06	2.20
Boshoff RD	15/8/95	-	3.90	87.0	0.520	0.195	0.013	7.46	210.0	1000.0	1000.0	0.16	2.90
Beatrice RD	15/8/95	-	9.00	91.0	0.130	0.010	0.009	7.41	210.0	1000.0	1000.0	0.11	3.30
Amalinda	15/8/95	-	7.90	87.0	1.100	TR	0.011	7.30	190.0	1000.0	1000.0	0.28	0.65
At Manyame	15/8/95	-	7.50	137.0	5.000	0.980	NIL	7.56	300.0	1100.0	1100.0	1.24	4.70

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	14/10/95	-	NO SAMPLE										
L. Kariba	14/10/95	-	NO SAMPLE										
Msasa RD	14/10/95	-	NO SAMPLE										
Widd RD	14/10/95	-	NO SAMPLE										
Hartfield RD	14/10/95	-	5.40	89.0	0.490	TR	0.027	6.88	230.0	780.0	460.0	1.65	1.70
Cripps RD	14/10/95	-	4.80	93.0	0.820	0.030	0.038	7.09	230.0	810.0	465.0	0.40	0.30
Boshoff RD	14/10/95	-	4.90	103.0	0.470	NIL	0.015	7.33	230.0	840.0	495.0	1.55	1.95
Beatrice RD	14/10/95	-	11.00	107.0	0.270	0.030	0.032	7.53	210.0	900.0	510.0	0.59	1.75
Amalinda	14/10/95	-	6.00	127.0	0.240	TR	0.017	7.40	260.0	940.0	520.0	1.59	0.45
At Manyame	14/10/95	-	10.70	149.0	6.400	0.250	0.015	7.48	270.0	1250.0	430.0	1.65	3.80
Mutare RD	19/12/95	-	NO SAMPLE										
L. Kariba	19/12/95	-	NO SAMPLE										
Msasa RD	19/12/95	-	NO SAMPLE										
Widd RD	19/12/95	-	NO SAMPLE										
Hartfield RD	19/12/95	-	6.00	15.0	0.200	0.008	0.019	6.31	50.0	190.0	70.0	1.07	2.25
Cripps RD	19/12/95	-	3.10	63.0	0.980	0.180	0.090	6.96	100.0	700.0	190.0	0.32	2.60
Boshoff RD	19/12/95	-	4.80	47.0	0.250	0.140	0.020	6.73	90.0	510.0	150.0	0.09	1.45
Beatrice RD	19/12/95	-	3.40	65.0	TR	0.173	0.097	7.04	70.0	340.0	190.0	0.21	5.35
Amalinda	19/12/95	-	4.60	27.0	STR	0.080	0.020	6.87	50.0	650.0	170.0	0.17	5.15
At Manyame	19/12/95	-	NO SAMPLE										
Mutare RD	13/2/96	-	4.90	361.0	0.120	TR	0.016	6.63	30.0	130.0	50.0	0.20	4.35
L. Kariba	13/2/96	-	3.60	45.0	11.500	0.005	0.027	4.43	NIL	1860.0	830.0	2.20	6.95
Msasa RD	13/2/96	-	6.60	37.0	13.000	0.006	0.009	5.48	20.0	1950.0	260.0	4.84	-
Widd RD	13/2/96	-	3.70	37.0	TR	STR	0.015	6.16	10.0	700.0	240.0	0.24	3.95
Hartfield RD	13/2/96	-	3.00	49.0	0.200	0.008	0.014	6.50	90.0	650.0	250.0	0.17	5.75
Cripps RD	13/2/96	-	2.90	47.0	0.310	0.013	0.015	6.50	60.0	650.0	230.0	0.14	5.00
Boshoff RD	13/2/96	-	3.60	45.0	0.110	0.028	0.020	6.75	90.0	650.0	230.0	0.10	4.80
Beatrice RD	13/2/96	-	2.80	37.0	TR	0.006	0.016	6.80	60.0	600.0	190.0	0.62	6.80
Amalinda	13/2/96	-	3.20	49.0	0.100	0.031	0.014	6.88	60.0	560.0	170.0	0.05	5.40
At Manyame	13/2/96	-	NO SAMPLE										

Table 3.5.16 Water Quality Data of Mukuvisi River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity µS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Mutare RD	21/5/96	-	NO SAMPLE										
L.Kanba	21/5/96	-	NO SAMPLE										
Msasa RD	21/5/96	-	NO SAMPLE										
Widd RD	21/5/96	-	NO SAMPLE										
Hartfield RD	21/5/96	-	4.10	69.0	0.270	0.002	0.003	5.97	30.0	460.0	240.0	0.18	5.00
Cripps RD	21/5/96	-	4.70	25.0	0.460	0.005	0.009	6.69	40.0	200.0	80.0	3.32	7.00
Boshoff RD	21/5/96	-	3.50	23.0	0.290	0.006	0.005	6.63	40.0	200.0	110.0	0.62	5.10
Beatrice RD	21/5/96	-	1.30	61.0	0.150	0.038	0.001	6.93	40.0	570.0	100.0	0.58	7.50
Amalinda	21/5/96	-	1.00	65.0	0.200	0.023	NIL	6.88	70.0	560.0	220.0	0.88	6.50
At Manyame	21/5/96	-	NO SAMPLE										

Table 3.5.17 Water Quality Data of Marimba River

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	5/12/89	-	2.60	19.0	0.090	0.005	0.003	7.32	160.0	360.0	130.0	0.06	5.20
Westwood RD	5/12/89	-	5.40	42.0	2.900	0.011	0.006	7.40	190.0	560.0	160.0	0.55	1.10
Kambuzuma RD	5/12/89	-	5.60	42.0	1.240	0.150	0.020	7.48	170.0	560.0	280.0	0.70	1.50
Above Crow.	5/12/89	-	15.20	130.0	0.540	0.083	0.012	7.61	200.0	1200.0	270.0	0.50	2.00
Below Crow.	5/12/89	-	11.80	72.0	0.920	0.100	0.105	7.67	210.0	750.0	280.0	0.54	1.90
At Lake	5/12/89	-	11.80	71.0	0.860	0.152	0.023	7.79	210.0	840.0	160.0	0.26	4.90
Bulawayo RD	27/3/90	-	9.00	15.0	0.360	TR	0.026	7.19	80.0	220.0	110.0	0.16	5.50
Westwood RD	27/3/90	-	8.60	21.0	1.440	0.127	0.058	7.09	110.0	450.0	180.0	0.71	2.40
Kambuzuma RD	27/3/90	-	11.20	21.0	2.160	0.180	0.145	7.19	100.0	475.0	150.0	0.36	0.50
Above Crow.	27/3/90	-	8.20	27.0	0.320	0.040	0.045	7.48	180.0	540.0	160.0	0.49	4.50
Below Crow.	27/3/90	-	5.40	51.0	0.180	0.029	0.038	7.58	150.0	575.0	150.0	0.37	5.20
At Lake	27/3/90	-	5.40	54.0	0.360	0.072	0.045	7.73	150.0	620.0	150.0	0.39	5.80
Bulawayo RD	11/9/90	-	3.20	43.0	NIL	0.020	0.045	7.28	240.0	560.0	280.0	0.02	6.90
Westwood RD	11/9/90	-	6.80	67.0	STR	0.010	0.018	7.35	250.0	780.0	260.0	0.34	NIL
Kambuzuma RD	11/9/90	-	4.60	59.0	NIL	0.058	0.212	7.57	240.0	740.0	240.0	TR	3.00
Above Crow.	11/9/90	-	14.00	137.0	0.350	0.088	0.022	7.79	250.0	1160.0	280.0	0.16	5.20
Below Crow.	11/9/90	-	9.60	117.0	0.350	0.071	0.083	7.76	250.0	1110.0	300.0	0.08	4.30
At Lake	11/9/90	-	9.20	130.0	0.150	0.062	0.008	7.84	230.0	1110.0	260.0	0.04	7.50
Bulawayo RD	26/2/91	-	3.80	15.0	0.140	0.004	0.007	7.17	140.0	280.0	140.0	0.04	5.50
Westwood RD	26/2/91	-	3.40	30.0	0.600	0.020	0.008	7.38	220.0	560.0	240.0	0.29	4.40
Kambuzuma RD	26/2/91	-	6.00	35.0	0.980	0.052	0.006	7.40	210.0	580.0	220.0	0.43	4.60
Above Crow.	26/2/91	-	3.40	71.0	0.130	0.019	0.017	7.80	240.0	640.0	240.0	0.21	7.60
Below Crow.	26/2/91	-	4.20	55.0	0.130	0.008	0.008	7.78	240.0	650.0	240.0	0.22	6.00
At Lake	26/2/91	-	9.00	81.0	0.200	0.052	0.008	7.73	240.0	740.0	160.0	0.55	6.40
Bulawayo RD	21/5/91	-	0.40	37.0	STR	NIL	0.015	7.82	190.0	470.0	225.0	0.03	7.60
Westwood RD	21/5/91	-	1.20	42.0	0.130	0.008	0.005	7.55	210.0	460.0	235.0	0.01	5.80
Kambuzuma RD	21/5/91	-	1.00	47.0	NIL	0.013	0.012	7.65	220.0	610.0	235.0	0.19	4.30
Above Crow.	21/5/91	-	9.60	107.0	0.750	0.080	0.078	7.74	260.0	900.0	220.0	0.73	5.20
Below Crow.	21/5/91	-	4.00	92.0	0.250	0.033	0.057	7.76	250.0	810.0	235.0	0.34	4.00
At Lake	21/5/91	-	7.20	107.0	1.480	0.027	0.103	7.93	230.0	950.0	190.0	0.47	3.70

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	27/8/91	-	2.40	40.0	TR	0.020	0.001	7.71	205.0	510.0	244.0	0.06	7.20
Westwood RD	27/8/91	-	8.20	57.0	1.620	0.023	0.001	7.73	266.0	770.0	245.0	0.70	1.40
Kambuzuma RD	27/8/91	-	5.80	59.0	0.250	0.014	0.001	7.69	260.0	750.0	241.0	0.30	2.50
Above Crow.	27/8/91	-	6.20	131.0	2.440	0.110	0.042	7.90	298.0	1150.0	265.0	0.66	5.40
Below Crow.	27/8/91	-	8.40	132.0	1.260	0.148	0.028	7.88	304.0	1120.0	290.0	0.63	2.60
At Lake	27/8/91	-	9.80	121.0	6.800	0.122	0.044	7.85	274.0	1100.0	212.0	1.64	3.20
Bulawayo RD	6/11/91	-	5.00	23.0	0.110	0.013	0.410	7.83	270.0	470.0	231.0	0.06	8.20
Westwood RD	6/11/91	-	24.60	74.0	8.800	0.048	0.190	7.25	250.0	1040.0	236.0	1.20	NIL
Kambuzuma RD	6/11/91	-	7.60	90.0	0.960	0.031	0.220	7.64	380.0	920.0	210.0	0.80	1.30
Above Crow.	6/11/91	-	10.60	65.0	0.460	0.014	0.410	7.41	120.0	330.0	850.0	1.08	0.80
Below Crow.	6/11/91	-	9.80	77.0	3.150	0.148	0.450	7.53	240.0	700.0	154.0	1.76	2.50
At Lake	6/11/91	-	21.00	162.0	16.000	0.430	0.330	7.95	410.0	1310.0	171.0	4.08	6.10
Bulawayo RD	25/2/92	-	2.80	32.0	0.100	0.008	0.004	7.74	228.0	500.0	245.0	0.05	4.30
Westwood RD	25/2/92	-	21.60	104.0	1.300	TR	TR	7.64	352.0	1000.0	265.0	1.58	NIL
Kambuzuma RD	25/2/92	-	11.00	117.0	0.300	TR	TR	7.76	336.0	1050.0	277.0	1.84	NIL
Above Crow.	25/2/92	-	4.00	65.0	0.110	0.005	0.005	7.96	208.0	650.0	195.0	0.58	5.20
Below Crow.	25/2/92	-	22.20	100.0	12.500	TR	TR	7.46	266.0	990.0	149.0	5.20	NIL
At Lake	25/2/92	-	15.20	116.0	11.500	0.009	0.003	7.87	288.0	900.0	173.0	4.66	2.20
Bulawayo RD	16/6/92	-	4.00	54.0	0.160	TR	TR	7.80	180.0	540.0	195.0	0.04	6.70
Westwood RD	16/6/92	-	8.60	76.0	0.140	0.008	0.003	7.52	270.0	780.0	208.0	4.08	0.60
Kambuzuma RD	16/6/92	-	4.20	64.0	1.120	0.007	0.003	7.52	240.0	700.0	209.0	0.88	1.90
Above Crow.	16/6/92	-	4.80	114.0	0.120	NIL	NIL	8.17	300.0	990.0	232.0	0.64	7.70
Below Crow.	16/6/92	-	5.40	110.0	0.980	0.020	0.032	7.85	250.0	1000.0	168.0	1.20	3.30
At Lake	16/6/92	-	7.80	142.0	3.150	0.072	0.104	7.97	290.0	1080.0	161.0	1.90	6.70
Bulawayo RD	17/8/92	-	5.20	43.0	NIL	0.005	0.009	7.65	200.0	560.0	240.0	0.52	6.80
Westwood RD	17/8/92	-	13.00	185.0	5.840	TR	0.019	7.64	350.0	1340.0	275.0	3.60	NIL
Kambuzuma RD	17/8/92	-	3.80	115.0	2.040	0.006	0.016	7.68	350.0	1040.0	275.0	0.16	0.21
Above Crow.	17/8/92	-	8.40	145.0	0.620	0.180	0.070	7.89	320.0	1170.0	265.0	0.68	5.10
Below Crow.	17/8/92	-	7.20	147.0	0.760	0.188	0.052	7.89	210.0	1070.0	160.0	0.64	6.50
At Lake	17/8/92	-	6.60	141.0	NIL	0.132	0.188	8.18	220.0	1070.0	180.0	1.16	8.40

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity µS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	17/9/92	-	1.60	33.0	TR	0.016	0.040	7.78	230.0	560.0	255.0	0.04	5.30
Westwood RD	17/9/92	-	15.60	165.0	0.980	0.007	0.022	7.66	370.0	1300.0	303.0	1.62	NIL
Kambuzuma RD	17/9/92	-	9.60	165.0	5.600	0.010	0.010	7.80	350.0	1440.0	275.0	0.65	1.40
Above Crow.	17/9/92	-	6.60	155.0	0.120	0.016	0.015	7.85	350.0	1280.0	302.0	0.82	3.60
Below Crow.	17/9/92	-	7.80	141.0	0.870	0.021	0.160	7.86	200.0	1090.0	140.0	0.46	5.30
At Lake	17/9/92	-	7.40	145.0	0.850	0.054	0.033	7.84	200.0	1095.0	148.0	0.55	5.50
Bulawayo RD	14/10/92	-	2.40	29.0	STR	0.035	0.415	8.10	280.0	590.0	290.0	0.05	7.70
Westwood RD	14/10/92	-	5.80	155.0	0.610	0.022	0.078	7.58	350.0	1550.0	360.0	0.76	4.90
Kambuzuma RD	14/10/92	-	4.40	171.0	0.170	0.016	0.054	7.72	330.0	1420.0	294.0	0.56	1.90
Above Crow.	14/10/92	-	13.80	179.0	0.480	0.160	0.195	7.68	360.0	1500.0	283.0	0.60	2.00
Below Crow.	14/10/92	-	10.20	157.0	5.700	0.200	1.500	7.66	270.0	1270.0	210.0	1.48	1.40
At Lake	14/10/92	-	6.60	155.0	0.190	0.029	0.496	7.89	210.0	1150.0	160.0	1.16	5.00
Bulawayo RD	17/11/92	-	4.60	27.0	TR	0.023	0.169	7.68	232.0	510.0	256.0	0.25	4.20
Westwood RD	17/11/92	-	25.80	241.0	1.360	0.250	0.040	8.24	208.0	1850.0	370.0	1.56	###
Kambuzuma RD	17/11/92	-	12.20	221.0	4.000	0.030	0.050	7.42	184.0	2400.0	486.0	0.64	1.80
Above Crow.	17/11/92	-	22.60	85.0	2.240	TR	0.030	7.20	200.0	780.0	228.0	1.20	NIL
Below Crow.	17/11/92	-	9.20	143.0	2.240	0.031	0.050	7.83	208.0	1050.0	158.0	0.24	4.60
At Lake	17/11/92	-	7.40	155.0	NIL	0.014	0.120	7.86	196.0	1190.0	136.0	0.78	4.50
Bulawayo RD	7/12/92	-	3.00	39.0	NIL	0.027	0.094	7.74	240.0	590.0	252.0	0.04	3.70
Westwood RD	7/12/92	-	8.60	257.0	0.340	0.025	0.050	7.36	272.0	2000.0	352.0	0.63	1.50
Kambuzuma RD	7/12/92	-	27.20	95.0	0.150	0.029	0.034	7.66	268.0	1020.0	268.0	1.61	6.50
Above Crow.	7/12/92	-	8.80	165.0	15.000	NIL	0.021	7.36	336.0	1500.0	196.0	0.62	2.00
Below Crow.	7/12/92	-	6.80	191.0	0.900	0.070	NIL	7.48	260.0	1580.0	384.0	0.66	NIL
At Lake	7/12/92	-	2.20	171.0	1.040	0.028	0.030	7.56	244.0	1540.0	150.0	1.18	1.80
Bulawayo RD	12/1/93	-	9.40	25.0	0.150	STR	0.045	7.53	120.0	330.0	130.0	0.04	6.20
Westwood RD	12/1/93	-	6.00	55.0	0.520	0.050	0.035	7.51	150.0	600.0	170.0	0.41	2.70
Kambuzuma RD	12/1/93	-	5.60	37.0	1.040	0.370	0.630	7.25	140.0	480.0	144.0	0.32	2.20
Above Crow.	12/1/93	-	5.40	57.0	0.350	0.027	0.091	7.56	140.0	550.0	150.0	0.26	4.70
Below Crow.	12/1/93	-	5.60	67.0	0.500	0.025	0.065	7.68	150.0	620.0	160.0	0.30	4.70
At Lake	12/1/93	-	4.00	105.0	0.800	0.230	0.122	7.78	170.0	820.0	166.0	0.40	5.50

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	16/2/93	-	5.20	21.0	NIL	STR	0.035	7.47	184.0	310.0	193.0	0.06	4.80
Westwood RD	16/2/93	-	5.40	31.0	4.000	0.140	0.640	7.34	152.0	450.0	190.0	0.05	4.70
Kambuzuma RD	16/2/93	-	4.20	30.0	STR	0.050	0.286	7.27	120.0	350.0	146.0	0.04	2.90
Above Crow.	16/2/93	-	8.20	42.0	NIL	0.018	0.174	7.45	108.0	350.0	144.0	NIL	4.30
Below Crow.	16/2/93	-	11.20	68.0	1.800	0.020	0.160	7.61	160.0	470.0	171.0	0.06	4.40
At Lake	16/2/93	-	8.00	41.0	0.900	0.054	0.132	7.60	112.0	320.0	103.0	0.01	5.50
Bulawayo RD	13/4/93	-	7.80	13.0	0.250	0.005	0.035	7.52	60.0	150.0	980.0	0.70	6.70
Westwood RD	13/4/93	-	10.20	57.0	11.500	3.150	0.300	7.47	220.0	650.0	296.0	0.94	6.80
Kambuzuma RD	13/4/93	-	3.60	63.0	TR	0.050	0.270	7.51	190.0	470.0	241.0	0.54	3.80
Above Crow.	13/4/93	-	9.40	123.0	0.180	0.013	0.087	7.80	260.0	680.0	280.0	0.65	5.40
Below Crow.	13/4/93	-	9.20	101.0	0.360	0.050	0.064	7.84	270.0	650.0	273.0	1.34	4.50
At Lake	13/4/93	-	9.40	133.0	0.250	0.130	0.090	7.73	250.0	730.0	176.0	1.10	5.60
Bulawayo RD	24/4/93	-	2.40	41.0	NIL	TR	0.060	7.68	240.0	440.0	260.0	1.41	7.70
Westwood RD	24/4/93	-	1.80	69.0	TR	0.007	0.040	7.48	220.0	590.0	270.0	0.34	6.50
Kambuzuma RD	24/4/93	-	2.20	61.0	0.150	0.190	0.040	7.28	190.0	640.0	280.0	0.33	5.70
Above Crow.	24/4/93	-	8.80	143.0	0.430	0.032	0.060	7.66	170.0	870.0	280.0	0.88	6.30
Below Crow.	24/4/93	-	4.00	125.0	0.410	0.050	0.120	7.78	230.0	810.0	280.0	0.75	6.70
At Lake	24/4/93	-	5.80	131.0	0.600	0.100	0.110	7.94	230.0	790.0	190.0	0.78	8.50
Bulawayo RD	31/8/93	-	1.40	39.0	STR	STR	0.038	7.93	200.0	440.0	224.0	0.04	6.80
Westwood RD	31/8/93	-	3.80	57.0	0.800	0.050	0.158	7.69	280.0	640.0	290.0	0.64	2.30
Kambuzuma RD	31/8/93	-	5.20	81.0	4.500	NIL	0.039	7.75	260.0	700.0	256.0	1.02	1.30
Above Crow.	31/8/93	-	4.40	113.0	0.280	0.021	0.031	8.00	290.0	800.0	270.0	0.82	6.00
Below Crow.	31/8/93	-	5.80	145.0	7.500	0.090	0.090	7.93	320.0	960.0	316.0	1.30	4.50
At Lake	31/8/93	-	10.40	171.0	0.270	0.014	0.056	8.31	330.0	102.0	226.0	1.24	7.40
Bulawayo RD	23/9/93	-	1.00	42.0	0.170	0.008	0.047	7.85	210.0	450.0	240.0	0.02	5.60
Westwood RD	23/9/93	-	25.60	62.0	11.400	0.430	0.570	7.37	200.0	1000.0	340.0	0.70	NIL
Kambuzuma RD	23/9/93	-	8.60	62.0	2.950	0.011	0.209	7.72	280.0	760.0	290.0	0.30	0.30
Above Crow.	23/9/93	-	6.60	63.0	0.140	0.039	0.073	7.89	320.0	800.0	300.0	0.45	3.50
Below Crow.	23/9/93	-	12.80	63.0	5.000	0.110	0.122	7.91	340.0	960.0	280.0	0.65	NIL
At Lake	23/9/93	-	7.00	67.0	4.200	0.230	0.370	7.78	280.0	725.0	220.0	0.55	5.00

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	16/11/93	-	4.40	73.0	0.120	TR	0.032	7.63	140.0	325.0	132.0	0.03	6.20
Westwood RD	16/11/93	-	5.60	99.0	0.450	0.006	0.008	6.88	200.0	669.0	186.0	0.78	0.60
Kambuzuma RD	16/11/93	-	5.20	43.0	0.420	0.013	0.007	7.10	160.0	540.0	172.0	1.36	1.70
Above Crow.	16/11/93	-	7.40	107.0	4.800	0.030	0.006	7.45	200.0	750.0	160.0	0.96	4.20
Below Crow.	16/11/93	-	7.80	67.0	1.000	0.056	0.014	7.66	180.0	650.0	182.0	1.13	5.00
At Lake	16/11/93	-	10.20	107.0	0.270	0.036	0.004	7.78	180.0	800.0	160.0	0.88	5.50
Bulawayo RD	21/2/94	-	5.00	19.0	0.180	0.036	0.019	7.03	40.0	175.0	66.0	0.16	4.60
Westwood RD	21/2/94	-	5.00	17.0	0.460	0.072	0.010	7.17	70.0	215.0	82.0	0.43	3.60
Kambuzuma RD	21/2/94	-	5.60	29.0	0.350	0.072	0.063	7.12	110.0	300.0	112.0	0.40	2.00
Above Crow.	21/2/94	-	6.20	51.0	3.160	0.070	0.002	7.42	120.0	375.0	116.0	0.65	4.90
Below Crow.	21/2/94	-	7.80	53.0	3.280	0.100	0.020	7.52	140.0	450.0	130.0	1.06	5.20
At Lake	21/2/94	-	10.20	85.0	2.840	0.150	0.005	7.80	190.0	610.0	142.0	1.56	6.80
Bulawayo RD	12/4/94	-	3.00	37.0	0.180	0.082	0.026	7.33	162.0	480.0	220.0	0.24	5.80
Westwood RD	12/4/94	-	9.60	99.0	0.290	0.005	0.022	7.40	280.0	860.0	260.0	1.12	NIL
Kambuzuma RD	12/4/94	-	10.80	53.0	1.540	NIL	0.011	7.21	264.0	650.0	220.0	1.20	NIL
Above Crow.	12/4/94	-	17.40	147.0	0.980	0.010	0.166	7.65	304.0	1100.0	270.0	1.56	1.50
Below Crow.	12/4/94	-	21.40	139.0	10.600	NIL	0.020	7.46	288.0	1090.0	320.0	1.30	NIL
At Lake	12/4/94	-	6.60	105.0	0.370	0.082	0.026	7.92	244.0	850.0	210.0	1.52	9.70
Bulawayo RD	16/8/94	-	2.40	57.0	1.860	0.080	0.084	7.64	200.0	560.0	245.0	0.20	7.50
Westwood RD	16/8/94	-	4.00	87.0	0.360	0.145	0.076	7.35	240.0	775.0	230.0	1.05	2.60
Kambuzuma RD	16/8/94	-	2.60	57.0	1.320	0.005	0.034	7.48	250.0	680.0	265.0	1.07	4.00
Above Crow.	16/8/94	-	4.40	97.0	0.800	0.060	0.191	7.59	230.0	775.0	270.0	0.84	6.00
Below Crow.	16/8/94	-	5.40	121.0	4.200	0.405	0.166	7.75	180.0	875.0	200.0	1.05	7.60
At Lake	16/8/94	-	5.40	107.0	0.100	0.014	0.158	7.55	220.0	910.0	220.0	1.39	7.80
Bulawayo RD	18/10/94	-	4.40	45.0	0.130	0.007	0.072	7.30	150.0	390.0	150.0	0.14	6.50
Westwood RD	18/10/94	-	11.80	77.0	0.120	TR	0.015	7.01	180.0	730.0	230.0	1.22	0.40
Kambuzuma RD	18/10/94	-	7.20	117.0	0.610	0.006	0.017	7.09	160.0	710.0	225.0	0.78	0.60
Above Crow.	18/10/94	-	10.00	137.0	1.520	0.036	0.029	7.28	190.0	960.0	300.0	1.10	3.80
Below Crow.	18/10/94	-	8.00	137.0	0.560	0.060	0.010	7.53	180.0	910.0	225.0	0.76	5.10
At Lake	18/10/94	-	9.00	127.0	0.700	0.044	0.131	7.60	260.0	890.0	225.0	0.74	6.00

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	28/3/95	-	2.40	53.0	TR	TR	0.015	7.41	190.0	660.0	180.0	0.05	5.70
Westwood RD	28/3/95	-	4.10	69.0	0.160	NIL	0.012	7.33	280.0	850.0	120.0	0.60	NIL
Kambuzuma RD	28/3/95	-	2.50	69.0	0.090	0.012	0.016	7.32	280.0	760.0	190.0	0.24	3.15
Above Crow.	28/3/95	-	5.10	85.0	0.240	0.070	0.046	7.43	230.0	860.0	200.0	0.74	5.80
Below Crow.	28/3/95	-	9.20	113.0	0.380	0.023	0.032	7.63	250.0	1030.0	190.0	0.92	5.80
At Lake	28/3/95	-	10.10	151.0	0.240	TR	0.026	7.76	320.0	1220.0	180.0	0.72	6.15
Bulawayo RD	15/5/95	-	9.00	57.0	0.250	0.023	0.048	7.04	100.0	590.0	180.0	0.04	5.05
Westwood RD	15/5/95	-	2.20	95.0	TR	TR	0.013	7.15	200.0	770.0	250.0	0.48	4.85
Kambuzuma RD	15/5/95	-	0.50	97.0	TR	TR	0.014	7.25	230.0	875.0	230.0	0.50	4.85
Above Crow.	15/5/95	-	4.40	157.0	0.250	TR	0.087	7.53	240.0	1100.0	210.0	0.82	7.65
Below Crow.	15/5/95	-	2.60	137.0	0.290	0.034	0.046	7.47	300.0	1090.0	210.0	0.30	4.45
At Lake	15/5/95	-	2.60	117.0	TR	TR	0.020	7.64	370.0	1010.0	230.0	0.41	6.50
Bulawayo RD	17/7/95	-	4.60	71.0	TR	NIL	0.009	7.15	120.0	660.0	190.0	0.04	6.90
Westwood RD	17/7/95	-	3.80	87.0	0.250	TR	0.010	7.08	220.0	810.0	210.0	0.81	2.25
Kambuzuma RD	17/7/95	-	2.80	85.0	0.860	0.030	0.008	7.21	200.0	860.0	200.0	0.81	4.40
Above Crow.	17/7/95	-	4.00	95.0	0.420	0.064	0.044	7.26	210.0	850.0	200.0	0.22	6.20
Below Crow.	17/7/95	-	4.50	123.0	0.980	0.037	0.062	7.42	230.0	1010.0	180.0	0.24	6.85
At Lake	17/7/95	-			NO SAMPLE								
Bulawayo RD	19/9/95	-	7.60	117.0	0.150	NIL	TR	7.56	200.0	750.0	190.0	0.60	6.40
Westwood RD	19/9/95	-	12.60	127.0	0.380	TR	TR	7.28	290.0	1080.0	300.0	1.40	6.05
Kambuzuma RD	19/9/95	-	7.70	107.0	TR	TR	TR	7.44	230.0	810.0	200.0	2.20	5.57
Above Crow.	19/9/95	-	7.90	99.0	0.110	0.008	0.011	7.60	210.0	900.0	220.0	1.80	1.75
Below Crow.	19/9/95	-	10.40	169.0	0.200	0.028	0.029	7.73	270.0	1190.0	210.0	1.60	7.50
At Lake	19/9/95	-			NO SAMPLE								
Bulawayo RD	21/11/95	-	3.60	117.0	STR	TR	TR	7.06	180.0	860.0	210.0	0.38	5.35
Westwood RD	21/11/95	-	5.10	125.0	0.410	0.012	0.014	7.16	200.0	1090.0	260.0	4.00	5.00
Kambuzuma RD	21/11/95	-	4.80	125.0	1.440	0.020	0.015	7.18	185.0	990.0	220.0	0.74	6.20
Above Crow.	21/11/95	-	4.70	135.0	NIL	0.010	0.026	7.33	210.0	1000.0	255.0	0.50	7.10
Below Crow.	21/11/95	-	6.30	159.0	TR	0.029	0.031	7.47	250.0	1210.0	210.0	0.70	6.00
At Lake	21/11/95	-	6.00	177.0	TR	0.016	0.018	7.49	280.0	1350.0	230.0	0.76	6.80

Table 3.5.17 Water Quality Data of Marimba River (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L
Bulawayo RD	9/1/96	-	2.60	79.0	TR	0.007	0.009	7.42	160.0	800.0	190.0	0.12	5.90
Westwood RD	9/1/96	-	8.10	95.0	0.160	TR	0.013	7.01	250.0	950.0	220.0	1.40	NIL
Kambuzuma RD	9/1/96	-	4.50	85.0	0.510	0.011	NIL	7.26	200.0	890.0	190.0	0.36	1.80
Above Crow.	9/1/96	-	12.80	89.0	STR	0.005	0.001	7.38	230.0	900.0	240.0	0.56	0.45
Below Crow.	9/1/96	-	12.70	143.0	0.190	0.020	0.005	7.70	210.0	1200.0	220.0	0.34	4.65
At Lake	9/1/96	-	7.50	145.0	0.290	0.043	0.012	7.72	230.0	1155.0	200.0	0.88	4.70
Bulawayo RD	16/5/96	-	2.10	37.0	0.110	0.002	0.008	7.14	110.0	460.0	200.0	0.40	6.80
Westwood RD	16/5/96	-	2.80	53.0	0.330	0.009	0.008	7.11	140.0	600.0	200.0	0.56	4.80
Kambuzuma RD	16/5/96	-	2.60	53.0	0.180	0.030	0.006	7.02	120.0	460.0	160.0	0.74	2.55
Above Crow.	16/5/96	-	5.70	67.0	0.940	0.050	0.030	7.20	100.0	480.0	180.0	0.90	6.20
Below Crow.	16/5/96	-	4.80	59.0	0.660	0.070	0.020	7.24	120.0	480.0	170.0	0.84	5.70
At Lake	16/5/96	-	6.10	89.0	0.910	0.090	0.010	7.31	140.0	470.0	210.0	1.16	6.50

Table 3.5.18 Water Quality Data of Seke Dam

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness mg/L	Phosphate mg/L	Dissolved Oxygen mg/L	Iron (Fe) mg/L	Manganese (Mn) mg/L	Calcium (Ca) mg/L	Albuminoid mg/L
Top	7/7/86	-	1.80	4.00	0.080	STR	0.013	6.94	24.0		15.0	0.028		0.56	0.03	10.0	0.23
Bottom	7/7/86	-	2.00	4.00	0.090	STR	0.014	6.56	22.0		16.0	0.024		0.65	0.03	11.0	0.23
Top	4/8/86	-	2.50	4.00	0.015	0.003	0.025	7.05	24.0		16.0	0.080		0.26	NIL	10.0	0.27
Bottom	4/8/86	-	1.90	4.00	0.040	0.003	0.1600	7.11	23.0		16.0	0.140		0.42	0.02	9.0	0.20
Top	1/9/86	-	0.60	4.00	0.035	0.005	0.119	7.82	26.0		18.0	0.028		0.40	0.04	13.0	0.105
Bottom	1/9/86	-	1.40	4.00	0.090	0.006	0.090	7.30	26.0		19.0	0.032		1.56	0.16	17.0	0.15
Top	22/9/86	-	1.20	5.00	0.010	0.001	0.065	7.13	27.0		18.0	0.012		0.54	0.07	12.0	0.16
Bottom	22/9/86	-	1.40	6.00	0.060	0.001	0.062	6.80	28.0		22.0	0.022		1.04	0.21	13.0	0.15
Top	3/11/86	-	2.00	5.00	0.003	NIL	0.007	7.36	28.0		16.0	0.020		0.47	0.03	13.0	0.045
Bottom	3/11/86	-	2.60	4.00	0.005	NIL	0.008	6.52	28.0		24.0	0.026		0.073	0.14	14.0	0.043
Top	1/12/86	-	2.80	7.00	0.300	NIL	0.0260	7.50	26.0		17.0	0.004		0.20	0.05	12.0	0.225
Bottom	1/12/86	-	3.20	7.00	0.115	NIL	0.016	6.96	26.0		18.0	0.008		0.44	0.248	13.0	0.23
Top	26/1/87	-	2.40	7.00	0.060	NIL	0.010	7.13	28.0		18.0	0.010		0.70	0.15	13.0	0.26
Bottom	26/1/87	-	2.60	7.00	0.080	STR	0.010	6.92	27.0		19.0	0.014		3.98	0.34	14.0	0.40
Top	17/2/87	-	4.20	5.00	0.340	NIL	NIL	6.91	27.0		18.0	0.004		0.144	0.04	13.0	0.25
Bottom	17/2/87	-	8.20	5.00	0.100	NIL	NIL	6.45	28.0		18.0	0.008		0.828	0.20	14.0	0.36
Top	30/3/87	-	3.60	4.00	STR	NIL	0.030	7.39	24.0		20.0	0.080		0.74	0.05	14.0	0.17
Bottom	30/3/87	-	3.60	4.00	0.100	NIL	0.060	7.28	26.0		20.0	0.160		1.52	0.08	15.0	0.21
Top	18/10/90	-	4.60	12.00	0.040	NIL	NIL	7.11	25.0		15.0	0.070		0.38	0.02	10.0	0.24
Bottom	18/10/90	-	32.60	16.00	0.300	NIL	NIL	6.81	27.0		17.0	0.060		13.89	0.25	12.0	1.08
Top	11/12/90	-	1.00	15.00	0.03	0.01	0.020	7.26	30.0		15.0	0.040		0.34	0.06	10.0	0.22
Bottom	11/12/90	-	3.20	15.00	0.09	0.01	0.040	6.14	26.0		14.0	0.090		14.00	2.64	10.0	1.41
Top	18/3/91	-	2.80	6.00	0.470	0.002	NIL	7.59	30.0		20.0	0.050		0.39	0.10	12.0	1.85
Bottom	18/3/91	-	32.00	12.00	0.700	STR	NIL	6.57	65.0		60.0	0.020		3.17	2.08	40.0	1.83
Top	14/5/91	-	3.20	8.00	0.070	NIL	STR	7.06	32.0		19.0	0.050		0.40	0.05	12.0	0.13
Bottom	14/5/91	-	NO SAMPLING														
Top	4/6/91	-	4.60	7.00	0.050	0.006	0.005	7.81	28.0		30.0	0.026		0.24	0.11	25.0	0.425
Bottom	4/6/91	-	154.00	7.00	0.725	0.003	0.005	6.62	30.0		35.0	0.140		9.03	1.84	20.0	5.00
Top	23/1/92	-	4.00	18.00	0.220	NIL	0.014	7.15	34.0		24.0	0.180		0.42	0.06	11.0	0.55
Bottom	23/1/92	-	42.00	18.00	1.320	TR	0.010	6.46	40.0		35.0	0.140		38.22	2.44	20.0	4.00
Top	3/3/92	-	3.40	10.00	0.140	NIL	0.020	7.76	34.0		42.0	0.380		0.45	0.16	9.0	0.37
Bottom	3/3/92	-	NO SAMPLING														
Top	4/8/92	-	4.80	17.00	0.550	0.0095	0.0085	7.51	44.0		28.0	0.076		2.78	0.25	12.0	0.72
Bottom	4/8/92	-	NO SAMPLING														
Top	15/2/96	-	5.60	13.00	0.050	0.002	0.003	7.67	40.0		36.0	0.060		1.02	0.48	26.0	0.11
Bottom	15/2/96	-	17.40	13.00	0.440	0.003	0.001	6.85	54.0		40.0	0.176		2.33	0.64	24.0	0.62

Table 3.5.19 Water Quality Data of Lake Chivero

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness mg/L	Phosphate mg/L	Dissolved Oxygen mg/L	Iron (Fe) mg/L	Manganese (Mn) mg/L	Calcium (Ca) mg/L	Albuminoid mg/L
Top	14/7/86	-	3.20	14.00	0.100	0.004	0.027	7.60	48.0		45.0	0.038		0.14	0.05	32.00	0.265
Middle	14/7/86	-	2.80	14.00	0.080	0.010	0.023	7.40	48.0		46.0	0.014		0.14	0.10	32.00	0.175
Bottom	14/7/86	-															
Top	13/8/86	-	2.80	16.00	0.030	0.001	0.053	8.70	47.0		46.0	0.032		0.14	0.02	32.00	0.62
Middle	13/8/86	-	0.80	15.00	0.100	0.009	0.060	7.40	48.0		48.0	0.020		0.08	0.04	31.00	0.24
Bottom	13/8/86	-															
Top	10/9/86	-	2.00	15.00	0.010	0.004	0.048	8.67	48.0		50.0	0.020		0.25	0.05	32.00	0.28
Middle	10/9/86	-	2.00	14.00	0.075	0.007	0.081	7.45	48.0		52.0	0.020		0.07	0.06	32.00	0.19
Bottom	10/9/86	-															
Top	13/10/86	-	3.00	16.00	NIL	NIL	0.021	8.66	45.0		48.0	0.002		0.11	0.06	33.00	0.43
Middle	13/10/86	-	2.40	16.00	0.015	0.007	0.093	7.36	45.0		49.0	0.004		0.12	0.10	33.00	0.32
Bottom	13/10/86	-															
Top	10/11/86	-	1.80	16.00	0.020	NIL	0.010	8.33	50.0		52.0	0.040		0.10	0.03	31.00	0.48
Middle	10/11/86	-	1.80	16.00	0.250	NIL	0.010	7.28	55.0		52.0	0.040		0.37	0.40	32.00	0.46
Bottom	10/11/86	-															
Top	2/2/87	-	1.60	19.00	0.020	NIL	0.007	8.12	54.0		42.0	0.046		0.10	0.03	34.00	0.27
Middle	2/2/87	-	3.60	18.00	0.700	0.004	0.011	7.98	60.0		64.0	0.074		0.78	0.94	34.00	0.50
Bottom	2/2/87	-															
Top	2/3/87	-	3.40	20.00	0.010	NIL	0.010	7.69	54.0		48.0	0.004		0.06	0.03	30.00	0.30
Middle	2/3/87	-	4.80	20.00	0.680	NIL	0.010	6.89	64.0		60.0	0.080		0.46	0.80	32.00	0.22
Bottom	2/3/87	-															
Top	31/10/90	-	3.40	28.00	0.050	NIL	0.010	6.73	66.0		59.0	0.020		0.25	0.05	32.00	0.165
Middle	31/10/90	-	3.80	28.00	0.050	NIL	0.010	7.01	68.0		56.0	0.020		0.60	0.08	30.00	0.21
Bottom	31/10/90	-															
Top	7/2/91	-	-	32.00	0.020	0.003	0.003	7.50	105.0		80.0	0.120		0.23	0.02	50.00	0.50
Middle	7/2/91	-	NO SAMPLE														
Bottom	7/2/91	-															
Top	14/3/91	-	4.00	39.85	0.580	NIL	0.008	7.54	73.0		60.0	0.050		0.34	0.06	18.00	0.48
Middle	14/3/91	-	4.00	39.85	1.025	0.010	NIL	7.28	76.0		58.0	0.120		1.07	0.16	32.00	0.78
Bottom	14/3/91	-															
Top	8/5/91	-	5.00	37.00	0.020	NIL	STR	7.73	77.0		62.0	0.060		0.17	0.06	35.00	0.55
Middle	8/5/91	-	3.40	37.00	0.050	STR	0.010	7.66	78.0		62.0	0.040		0.10	0.06	36.00	0.25
Bottom	8/5/91	-															
Top	17/7/91	-	4.00	36.00	0.050	0.005	0.003	7.53	86.0		70.0	0.172		0.14	0.03	42.00	1.60
Middle	17/7/91	-	4.40	31.00	0.095	0.004	STR	7.56	85.0		72.0	0.230		0.91	0.08	42.00	1.70
Bottom	17/7/91	-															
Top	25/9/91	-	-	41.00	0.055	0.015	0.012	9.40	85.0		76.0	0.128		0.08	0.01	44.00	0.41
Middle	25/9/91	-	-	39.00	0.110	0.011	0.013	8.92	85.0		74.0	0.160		0.19	0.01	42.00	0.90
Bottom	25/9/91	-															
Top	24/4/92	-	3.80	35.00	0.390	STR	0.007	8.65	109.0		83.0	0.170		0.16	0.08	42.00	0.78
Middle	24/4/92	-	4.20	30.00	0.400	STR	0.008	7.99	111.0		84.0	0.150		0.21	0.11	44.00	0.80
Bottom	24/4/92	-															

Table 3.5.19 Water Quality Data of Lake Chivero (cont'd)

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness mg/L	Phosphate mg/L	Dissolved Oxygen mg/L	Iron (Fe) mg/L	Manganese (Mn) mg/L	Calcium (Ca) mg/L	Albuminoid mg/L
Top	13/8/92	-	3.50	35.00	0.060	0.004	0.010	9.36	112.0		82.0	0.036		0.13	NIL	49.00	0.58
Middle	13/8/92	-	4.50	35.00	0.070	STR	0.002	9.12	112.0		83.0	0.204		0.43	0.05	49.00	0.45
Bottom	13/8/92	-															
Top	12/11/92	-	4.80	68.00	0.060	0.007	0.084	9.09	135.0		92.0	0.220		0.23	0.07	50.00	0.37
Middle	12/11/92	-	4.80	68.00	0.040	0.007	0.077	9.06	134.0		94.0	0.200		0.28	0.02	49.00	0.60
Bottom	12/11/92	-															
Top	22/9/93	-	2.80	81.00	0.210	TR	0.020	9.54	160.0		106.0	0.230		0.21	0.02	52.00	0.88
Middle	22/9/93	-	3.80	87.00	0.200	0.003	0.017	9.27	150.0		106.0	0.230		0.70	0.01	52.00	0.80
Bottom	22/9/93	-															
Top	27/1/94	-	10.00	149.00	0.240	TR	0.010	9.12	140.0		96.0	0.240		0.14	0.05	64.00	0.78
Middle	27/1/94	-	7.00	169.00	0.290	0.010	0.003	9.03	130.0		108.0	0.150		0.01	0.04	66.00	0.50
Bottom	27/1/94	-															
Top	16/9/94	-	9.40	69.00	0.300	NIL	0.090	9.00	145.0		110.0	0.120		1.04	0.17	70.00	0.40
Middle	16/9/94	-	6.00	67.00	0.060	0.010	0.090	8.70	148.0		116.0	0.120		1.09	0.28	72.00	0.42
Bottom	16/9/94	-	11.40	77.00	0.340	0.030	0.184	8.10	144.0		120.0	0.150		2.15	0.21	68.00	0.45
Top	9/1/95	-	6.40	73.00	0.060	STR	0.010	8.63	148.0		116.0	0.110		0.26	0.06	69.00	0.50
Middle	9/1/95	-	6.80	93.00	0.140	TR	0.070	6.78	96.0		118.0	0.210		0.53	0.16	69.00	0.55
Bottom	9/1/95	-	18.20	73.00	0.600	0.010	0.060	7.81	156.0		116.0	1.260		5.32	0.24	70.00	0.80
Top	18/1/95	-	2.40	70.00	0.220	0.002	0.002	8.56	150.0		114.0	0.970		NIL	0.04	74.00	1.06
Middle	18/1/95	-	3.80	69.00	0.220	0.003	0.001	8.45	149.0		114.0	1.080		0.10	0.06	74.00	1.14
Bottom	18/1/95	-	6.00	69.00	0.580	0.004	0.001	8.25	153.0		114.0	1.210		0.39	0.16	74.00	1.22
Top	22/3/95	-	1.80	62.00	STR	0.004	0.004	8.68	152.0		108.0	0.540		0.22	0.05	72.00	0.57
Middle	22/3/95	-	4.50	64.00	STR	0.004	0.002	8.67	152.0		112.0	0.510		0.10	0.05	72.00	0.65
Bottom	22/3/95	-	5.00	64.00	STR	0.004	0.003	8.69	152.0		116.0	0.610		0.13	0.07	74.00	0.72
Top	1/6/95	-	6.20	77.00	0.050	0.020	0.030	8.06	158.0		120.0	0.460		0.10	0.02	80.00	0.97
Middle	1/6/95	-	5.20	77.00	0.060	0.020	0.010	8.24	158.0		124.0	0.470		0.10	0.04	76.00	0.91
Bottom	1/6/95	-	5.00	77.00	0.130	0.040	0.010	8.23	154.0		124.0	0.520		0.13	0.09	78.00	0.99
Top	23/8/95	-	8.20	89.00	0.120	0.006	0.009	7.02	172.0		132.0	0.356		0.16	0.07	72.00	2.70
Middle	23/8/95	-	6.60	93.00	0.150	0.007	0.010	7.02	172.0		130.0	0.020		0.07	0.18	76.00	2.05
Bottom	23/8/95	-	7.00	93.00	0.360	0.024	0.022	8.74	174.0		136.0	0.340		0.54	0.04	88.00	0.97
Top	12/10/95	-	5.60	87.00	0.100	0.004	0.002	8.71	170.0		140.0	0.396		0.16	0.07	84.00	0.50
Middle	12/10/95	-	6.70	89.00	0.105	0.007	0.002	8.47	174.0		140.0	0.636		0.16	0.07	84.00	0.80
Bottom	12/10/95	-	7.70	91.00	0.110	0.007	0.001	8.58	176.0		132.0	0.384		0.50	0.09	88.00	0.50

Table 3.5.20 Water Quality Data of Lake Manyame

Sample Point	Sampling Date	Flow m ³ /day	Oxygen Absorbed ppm	Chloride mg/L	Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	pH	T-Alkalinity mg/L	Electric Conductivity uS/cm	Total Hardness	Phosphate mg/L	Dissolved Oxygen mg/L	Iron (Fe) mg/L	Manganese (Mn) mg/L	Calcium (Ca) mg/L	Albuminoid mg/L
Top	21/7/86	-	2.20	10.00	0.020	0.002	0.017	7.85	54.0		50.0	0.010		0.19	0.05	25.0	0.185
Bottom	21/7/86	-	2.40	11.00	0.070	0.002	0.019	8.10	55.0		50.0	0.008		0.22	0.12	28.0	0.28
Top	18/8/86	-	3.20	12.00	0.015	0.005	0.045	7.50	56.0		50.0	0.020		0.07	0.04	26.0	0.245
Bottom	18/8/86	-	-	-	-	-	-	-	-		-	-		-	-	-	-
Top	10/9/86	-	2.00	10.00	0.010	0.004	0.100	8.04	53.0		52.0	0.010		0.22	0.06	26.0	0.17
Bottom	10/9/86	-	3.00	10.00	0.015	0.002	0.1280	7.97	58.0		52.0	0.012		0.48	0.12	26.0	0.25
Top	25/11/86	-	3.40	12.00	0.010	0.003	0.011	7.95	59.0		52.0	0.016		0.07	0.05	22.0	0.27
Bottom	25/11/86	-	3.40	13.00	0.040	0.005	0.028	7.70	58.0		52.0	0.030		0.50	0.10	23.0	0.32
Top	12/2/87	-	3.00	14.00	0.100	NIL	0.028	7.75	59.0		50.0	NIL		0.14	0.18	28.0	0.265
Bottom	12/2/87	-	4.00	15.00	0.360	0.004	0.024	7.34	60.0		51.0	0.008		0.19	0.36	28.0	0.22
Top	12/3/87	-	2.20	12.00	0.130	NIL	0.0200	7.93	64.0		52.0	0.500		0.11	0.08	24.0	0.54
Bottom	12/3/87	-	9.60	12.00	0.250	0.004	0.020	7.57	63.0		52.0	0.760		8.63	0.26	24.0	1.00
Top	10/9/87	-	2.40	13.00	0.140	TR	0.072	7.70	70.0		56.0	0.020		0.30	0.08	22.0	0.31
Bottom	10/9/87	-	5.20	15.00	0.300	TR	0.070	7.40	74.0		58.0	0.040		0.12	1.44	24.0	0.65
Top	11/12/87	-	2.40	22.00	0.200	STR	NIL	7.98	82.0		62.0	0.010		0.18	0.08	28.0	0.29
Bottom	11/12/87	-	NO SAMPLING														
Top	21/1/90	-	3.40	30.00	0.030	NIL	NIL	6.95	89.0		64.0	0.040		0.19	0.06	24.0	0.17
Bottom	21/1/90	-															
Top	26/3/91	-	2.20	8.00	0.075	NIL	0.010	7.60	74.0		70.0	0.190		0.19	0.05	26.0	0.15
Bottom	26/3/91	-															
Top	20/5/91	-	2.00	28.00	0.080	NIL	STR	7.81	81.0		66.0	0.100		0.02	0.04	40.0	0.18
Bottom	20/5/91	-															
Top	22/7/91	-	2.60	38.00	0.055	NIL	TR	7.89	83.0		76.0	0.250		0.10	NIL	30.0	0.19
Bottom	22/7/91	-															
Top	17/9/91	-	-	20.00	0.085	0.014	0.022	8.15	87.0		80.0	0.230		0.09	0.09	32.0	0.21
Bottom	17/9/91	-															
Top	29/3/92	-	2.60	22.00	0.060	0.012	0.052	8.66	94.0		88.0	0.042		0.26	0.39	35.0	0.42
Bottom	29/3/92	-															
Top	23/4/96	-	3.60	23.00	0.145	0.0025	0.0055	7.19	66.0		80.0	0.080		0.25	0.32	40.0	0.40
Bottom	23/4/96	-															

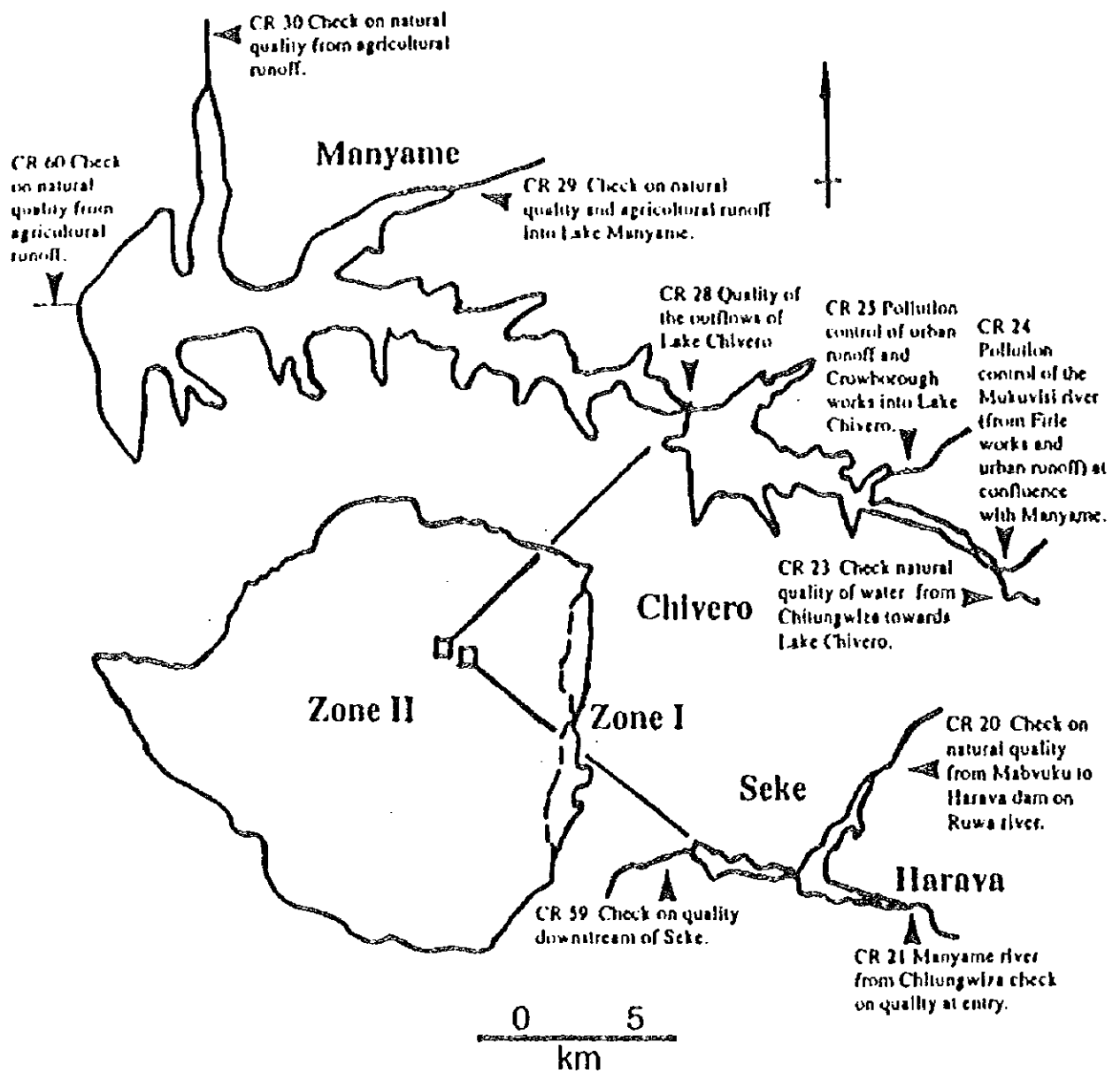


Figure 3.5.1 The Location of Water Sampling Points

Table 3.5.22 Summary of Water Quality Data of Crowborough STW (TF & BNR)

Annual (May '95 - Apr. '96)																		
	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Inflow SS	TF Effluent Q	TF BOD	TF COD	TF T-N	TF P-P	TF SS	BNR Effluent Q	BNR BOD	BNR COD	BNR T-N	BNR P-P	BNR SS
No.	37	35	35	37	37	36	37	34	34	37	37	36	37	33	34	37	37	35
Min.	39,700	120.10	2,31.70	27.00	1.20	32.00	24,000	8.30	96.89	16.00	0.75	16.00	12,800	3.25	29.40	0.49	0.09	1.50
Max.	121,400	1,310.50	2,741.20	90.00	15.20	1,352.00	104,500	462.50	470.60	67.30	12.50	248.00	17,600	90.00	250.00	32.00	6.70	100.00
Avg.	55,368	619.35	1,355.02	54.97	6.74	649.94	39,381	125.01	281.98	37.86	5.23	101.82	15,986	21.48	91.32	9.30	1.54	29.95
50%	47,200	640.00	1,298.40	55.00	6.80	650.00	31,000	106.10	295.30	38.00	4.90	92.00	16,000	14.65	84.35	4.31	0.60	21.00
75%	60,600	796.70	1,746.20	66.00	7.80	850.00	44,600	154.53	341.25	47.00	5.90	121.00	16,300	30.10	103.18	16.80	1.90	43.50
Dry Season (May '95 - Sept. '95, Apr. '96)																		
No.	19	18	17	19	19	18	19	17	17	19	19	18	19	17	17	19	19	17
Min.	39,700	320.70	762.08	36.50	4.00	410.00	24,100	8.30	96.89	18.00	0.75	50.00	12,800	3.25	51.00	0.49	0.10	1.50
Max.	63,500	1,310.50	2,741.20	89.00	13.60	1,552.00	50,700	212.70	447.40	67.30	12.50	248.00	16,800	90.00	250.00	20.06	6.70	80.00
Avg.	48,053	663.79	1,648.75	58.20	7.06	776.78	32,342	98.08	296.93	39.65	5.73	103.19	15,711	18.87	98.78	4.68	1.21	22.46
50%	46,000	580.58	1,455.20	56.00	6.20	755.00	30,100	85.95	301.60	39.00	5.40	95.00	16,000	10.90	79.80	3.12	0.38	18.00
75%	49,200	833.20	1,867.70	67.00	8.10	917.50	33,800	135.40	341.10	47.55	7.20	117.50	16,200	19.05	99.20	4.24	1.25	27.00

Table 3.5.23 Summary of Water Quality Data of Firie STW (Unit 1 & 2, TF)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Inflow SS	TF Effluent Q	TF BOD	TF COD	TF T-N	TF P-P	TF SS
Annual (May '95 - Apr. '96)												
No.	34	33	33	33	35	34	34	29	30	30	30	28
Min.	76,000	60.65	194.60	22.00	1.60	80.00	44,740	16.00	108.11	0.13	1.70	40.00
Max.	320,000	1,070.75	4,651.20	132.00	33.00	1,168.00	302,000	340.75	653.00	64.00	6.80	284.50
Avg.	132,312	483.28	1,025.77	64.06	7.91	509.00	104,636	152.62	267.95	38.67	4.49	98.02
50%	112,000	470.15	970.70	64.00	6.90	470.00	83,910	147.95	228.00	38.50	4.55	77.00
75%	132,000	640.70	1,225.30	78.00	9.10	685.00	104,575	209.35	335.73	47.75	5.50	135.75
Dry Season (May '95 - Sept. '95, Apr. '96)												
No.	15	14	14	15	16	16	15	12	13	13	13	13
Min.	76,000	200.20	194.60	22.00	4.00	148.00	44,740	16.00	114.60	16.00	2.00	47.00
Max.	134,000	840.60	1,380.00	132.00	13.20	1,140.00	105,100	242.55	480.90	64.00	6.80	284.50
Avg.	109,373	499.73	847.15	65.67	7.51	471.75	81,335	137.82	251.22	43.02	4.39	118.12
50%	111,000	505.58	841.00	66.00	7.00	420.00	82,990	139.25	223.50	46.00	4.40	88.00
75%	114,700	635.68	1,097.73	77.00	8.85	595.00	87,295	178.56	328.00	49.00	5.40	150.00

Table 3.5.24 Summary of Water Quality Data of Firie STW (Unit 3 & 4, BNR)

UNIT 3	U3-Inflow Q	U3-Inflow BOD	U3-Inflow COD	U3-Inflow T-N	U3-Inflow P-P	U3-Inflow SS	BNR U3-Eff. BOD	BNR U3-Eff. COD	BNR U3-Eff. T-N	BNR U3-Eff. P-P	BNR U3-Eff. SS
Annual (May '95 - Apr. '96)											
No.	32	34	32	34	32	33	31	31	34	32	33
Min.	6,000	100.80	252.90	22.00	2.70	75.00	1.05	23.30	0.50	0.42	2.00
Max.	16,000	850.95	1,831.50	89.00	16.80	1,500.00	153.15	574.20	63.00	7.50	118.00
Avg.	12,403	461.01	996.99	62.38	8.88	583.32	23.61	107.57	13.73	2.84	24.79
50%	12,900	470.20	1,030.90	64.50	9.50	600.00	11.45	82.10	11.83	2.30	19.00
75%	14,000	630.36	1,228.68	76.75	11.08	740.00	27.75	106.60	19.10	3.30	31.00
Dry Season (May '95 - Sept. '96, Apr. '96)											
No.	17	19	17	19	18	18	17	16	19	18	18
Min.	6,720	100.80	478.50	32.00	2.70	100.00	5.60	24.00	1.70	0.42	2.00
Max.	16,000	850.95	1,831.50	89.00	14.90	1,100.00	37.55	262.50	30.83	7.50	43.00
Avg.	12,744	484.82	1,075.94	66.84	8.77	592.03	13.76	105.94	10.63	2.90	21.72
50%	12,300	510.35	1,087.00	70.00	8.40	634.00	9.70	84.35	9.04	2.06	22.50
75%	14,000	606.15	1,372.95	80.50	11.45	745.00	14.95	107.95	13.35	4.10	29.75
UNIT 4	U4-Inflow Q	U4-Inflow BOD	U4-Inflow COD	U4-Inflow T-N	U4-Inflow P-P	U4-Inflow SS	BNR U4-Eff. BOD	BNR U4-Eff. COD	BNR U4-Eff. T-N	BNR U4-Eff. P-P	BNR U4-Eff. SS
Annual (May '95 - Apr. '96)											
No.	32	34	32	34	32	33	30	32	34	32	33
Min.	10,000	131.80	214.00	24.00	3.20	68.00	1.00	27.20	0.63	0.18	2.00
Max.	17,900	1,000.95	1,850.40	94.00	13.60	1,230.00	98.15	228.90	31.06	12.00	137.00
Avg.	15,252	495.99	975.05	62.24	8.09	572.00	17.31	94.70	13.03	2.23	29.06
50%	15,560	455.85	873.25	63.50	7.25	600.00	10.65	84.15	9.88	1.55	21.00
75%	16,310	655.99	1,178.43	75.00	10.85	730.00	24.41	108.68	20.20	2.62	35.00
Dry Season (May '95 - Sept. '96, Apr. '96)											
No.	17	19	17	19	18	18	18	17	19	18	18
Min.	10,000	200.80	478.50	34.00	4.00	100.00	1.10	30.00	2.94	0.18	2.00
Max.	17,900	1,000.95	1,850.40	94.00	13.60	1,000.00	98.15	228.90	31.06	8.40	137.00
Avg.	15,388	473.81	1,081.43	65.95	8.21	589.33	18.19	104.47	11.13	2.04	30.50
50%	16,000	441.45	1,139.54	66.00	7.50	640.00	10.58	89.60	7.97	1.41	24.00
75%	16,340	591.15	1,268.60	78.00	10.48	806.00	22.89	109.80	14.32	2.75	34.50

Table 3.5.25 Summary of Water Quality Data of Donnybrook STW (No.1 Pond)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Pond Effluent	Pond BOD	Pond COD	Pond T-N	Pond P-P
Annual (May '94 - Apr. '96)										
No.	22	21	0	12	23	0	20	0	12	23
Min.	320	82.00	-	84.00	8.00	-	5.05	-	39.00	3.20
Max.	610	1,820.40	-	400.00	31.60	-	262.70	-	235.00	21.40
Avg.	400	854.65	-	194.92	16.82	-	98.85	-	106.35	11.68
50%	390	860.10	-	202.50	15.90	-	73.75	-	98.09	11.60
75%	418	1,061.10	-	232.50	20.20	-	156.81	-	110.00	14.15
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)										
No.	11	11	0	7	12	0	10	0	7	12
Min.	330	82.00	-	180.00	11.00	-	5.05	-	83.00	3.20
Max.	460	1,820.40	-	400.00	31.60	-	262.70	-	235.00	21.40
Avg.	391	886.27	-	243.57	19.37	-	59.38	-	122.00	11.03
50%	410	860.10	-	230.00	17.20	-	28.75	-	98.00	11.65
75%	415	1,026.55	-	245.00	23.65	-	78.53	-	130.00	13.83

Table 3.5.26 Summary of Water Quality Data of Donnybrook STW (No.2 Pond)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Pond BOD	Pond COD	Pond T-N	Pond P-P
Annual (May '94 - Apr. '96)									
No.	23	22	0	12	21	22	0	12	22
Min.	1,160	30.15	-	50.00	4.70	5.10	-	60.00	1.64
Max.	1,520	1,560.90	-	800.00	24.40	372.40	-	148.07	25.20
AVG.	1,350	776.96	-	218.75	13.34	104.56	-	99.63	10.97
50%	1,340	830.73	-	160.00	11.80	59.30	-	102.03	9.60
75%	1,430	1,122.81	-	271.00	17.80	156.58	-	108.50	12.75
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)									
No.	12	11	0	6	10	11	0	6	11
Min.	1,160	300.00	-	92.00	10.10	5.10	-	60.00	5.90
Max.	1,460	1,240.50	-	800.00	21.80	75.00	-	108.00	16.40
AVG.	1,357	863.36	-	319.20	14.69	40.58	-	92.40	11.43
50%	1,390	940.55	-	268.00	11.80	46.55	-	100.00	10.20
75%	1,430	1,153.19	-	280.00	18.00	55.98	-	102.00	15.80

Table 3.5.27 Summary of Water Quality Data of Donnybrook STW (No.3 Pond)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Pond BOD	Pond COD	Pond T-N	Pond P-P
Annual (May '94 - Apr. '96)									
No.	23	22	0	14	24	22	0	14	24
Min.	1,160	361.90	-	60.00	7.90	15.10	-	32.00	4.00
Max.	1,720	1,320.20	-	380.00	26.60	320.40	-	126.00	18.00
Avg.	1,396	845.83	-	188.36	15.53	127.08	-	69.29	9.63
50%	1,400	881.35	-	171.00	14.90	118.10	-	63.50	9.81
75%	1,415	1,046.35	-	258.75	18.00	195.06	-	81.00	11.80
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)									
No.	11	10	0	7	12	10	0	7	12
Min.	1,160	540.10	-	75.00	7.90	15.10	-	38.00	4.00
Max.	1,420	1,260.25	-	380.00	26.60	195.60	-	126.00	18.00
Avg.	1,364	881.59	-	228.57	16.96	89.59	-	82.00	9.61
50%	1,400	895.68	-	270.00	16.55	65.85	-	72.00	9.41
75%	1,415	1,041.28	-	300.00	22.63	145.34	-	105.50	12.68

Table 3-5.28 Summary of Water Quality Data of Donnybrook STW (No.4 Pond)

Annual (May '94 - Apr. '96)										
	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Pond BOD	Pond COD	Pond T-N	Pond P-P	
No.	23	21	0	13	23	21	0	13	23	23
Min.	1,430	51.30	-	84.00	6.10	1.95	-	48.00	4.10	4.10
Max.	2,610	1,161.50	-	350.00	28.40	281.50	-	130.00	13.50	13.50
Avg.	2,351	775.64	-	186.15	14.60	124.05	-	77.78	9.08	9.08
50%	2,360	860.70	-	180.00	14.80	133.00	-	72.13	9.20	9.20
75%	2,480	1,001.50	-	210.00	17.40	186.30	-	92.00	10.75	10.75
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)										
No.	12	10	-	7	12	10	0	7	12	12
Min.	2,190	420.40	-	138.00	6.10	1.95	-	50.00	4.20	4.20
Max.	2,500	1,161.50	-	350.00	28.40	236.50	-	130.00	13.50	13.50
Avg.	2,400	818.62	-	214.45	15.80	108.77	-	84.88	9.88	9.88
50%	2,480	780.80	-	185.00	15.00	94.03	-	74.00	10.10	10.10
75%	2,485	996.08	-	260.00	18.35	179.30	-	103.00	11.10	11.10

Table 3.5.29 Summary of Water Quality Data of Marlborough STW (Pond)

	Inflow	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Pond BOD	Pond COD	Pond T-N	Pond P-P
Annual (May '94 - Apr. '96)									
No.	0	23	-	14	24	23	0	14	24
Min.	-	10.80	-	27.00	0.80	8.70	-	20.13	1.10
Max.	-	800.20	-	89.00	12.00	220.40	-	61.00	10.60
Avg.	-	331.32	-	58.14	6.26	77.82	-	36.38	4.04
50%	-	270.35	-	61.50	6.05	55.95	-	31.55	3.10
75%	-	478.23	-	72.25	7.45	128.68	-	41.50	5.13
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)									
No.	0	12	0	7	12	11	0	7	12
Min.	-	30.15	-	37.00	2.63	8.70	-	22.30	1.10
Max.	-	800.20	-	89.00	12.00	191.35	-	61.00	10.60
Avg.	-	322.78	-	59.71	6.45	51.40	-	36.45	4.04
50%	-	255.35	-	55.00	5.80	20.40	-	27.70	3.00
75%	-	448.81	-	72.00	7.75	56.50	-	46.25	6.25

Table 3.5.30 Summary of Water Quality Data of Hatcliffe STW (OD)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Inflow SS	OD BOD	OD COD	OD T-N	OD P-P	OD SS
Annual (May '94 - Apr. '96)											
No.	0	22	22	15	24	24	20	22	15	24	23
Min.	-	381.90	1,206.90	96.00	8.40	114.00	98.30	68.30	61.00	4.80	77.00
Max.	-	1,161.00	2,695.47	800.00	27.20	2,370.00	551.70	1,578.90	220.00	11.00	860.00
Avg.	-	705.28	1,724.67	253.36	16.94	790.92	282.78	527.04	110.40	7.64	244.96
50%	-	727.45	1,682.23	195.00	16.80	715.00	258.55	465.53	90.00	7.55	176.00
75%	-	809.64	1,789.28	225.00	21.20	858.00	351.21	567.60	126.00	8.55	273.00
Dry Season (May '94 - Sept. '94, Apr. '95 - Sept. '95, Apr. '96)											
No.	0	12	11	6	12	12	11	11	6	12	11
Min.	-	381.90	1,206.90	152.00	8.40	114.00	98.30	68.30	67.00	4.80	79.00
Max.	-	821.10	2,091.20	450.00	27.20	2,370.00	351.00	1,578.90	210.00	11.00	670.00
Avg.	-	600.52	1,677.56	218.23	18.17	865.00	214.58	569.34	105.83	7.47	209.00
50%	-	581.25	1,697.76	177.50	20.00	754.00	233.05	438.70	89.00	7.70	118.00
75%	-	723.80	1,751.75	195.75	21.30	869.00	274.05	625.99	91.50	8.85	238.00

Table 3.5.31 Summary of Water Quality Data of Zengeza STW (TF)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N (A-N)	Inflow P-P	Tilcor Inflow BOD	Tilcor Inflow COD	Tilcor Inflow T-N (A-N)	Tilcor Inflow P-P	Effluent BOD	Effluent COD	Effluent T-N (A-N)	Effluent P-P
Annual (Mar. '95 - Feb. '96)													
No.	0	21	-	21	-	21	0	20	0	21	0	21	0
Min.	-	78.00	-	11.00	-	400.00	-	7.00	-	65.00	-	29.10	-
Max.	-	1,950.00	-	178.00	-	21,500.00	-	186.00	-	315.00	-	83.00	-
Avg.	-	973.95	-	52.19	-	2,142.86	-	52.90	-	141.30	-	58.31	-
50%	-	930.00	-	42.00	-	1,060.00	-	46.00	-	130.00	-	59.68	-
75%	-	1,160.00	-	57.00	-	1,300.00	-	62.50	-	180.00	-	67.80	-
Dry Season (Mar. '95 - Sept. '95)													
No.	0	10	0	10	0	10	0	10	0	10	0	10	0
Min.	-	78.00	-	37.00	-	860.00	-	7.00	-	105.00	-	45.84	-
Max.	-	1,200.00	-	75.00	-	1,300.00	-	68.00	-	195.00	-	83.00	-
Avg.	-	822.80	-	47.60	-	1,034.00	-	44.50	-	141.48	-	64.98	-
50%	-	805.00	-	44.00	-	985.00	-	46.00	-	130.00	-	67.11	-
75%	-	1,050.00	-	46.75	-	1,170.00	-	57.50	-	169.33	-	75.22	-

Table 3.5.32 Summary of Water Quality Data of Norton STW (IF)

	Inflow	Inflow BOD	Inflow COD	Inflow T-N	Inflow P-P	Effluent BOD	Effluent COD	Effluent T-N	Effluent P-P
2 June 1995									
No.	0	1	1	1	1	1	1	1	1
Min.	-	660.00	1,496.20	83.30	7.60	520.00	1,191.90	65.80	7.60
Max.	-	-	-	-	-	-	-	-	-
Avg.	-	-	-	-	-	-	-	-	-
50%	-	-	-	-	-	-	-	-	-
75%	-	-	-	-	-	-	-	-	-
6 June 1996 (by JICA)									
No.	0	1	1	1	1	1	1	1	1
Min.	-	540.00	767.00	47.00	4.60	30.00	233.00	29.00	7.60
Max.	-	-	-	-	-	-	-	-	-
Avg.	-	-	-	-	-	-	-	-	-
50%	-	-	-	-	-	-	-	-	-
75%	-	-	-	-	-	-	-	-	-

Table 3.5.33 Summary of Water Quality Data of Ruwa STW (POND)

	Inflow Q	Inflow BOD	Inflow COD	Inflow T-N (A-N)	Inflow P-P	Effluent BOD	Effluent COD	Effluent T-N (A-N)	Effluent P-P
Annual (Oct. '94 - Sep. '95)									
No.	0	11	-	11	11	11	0	8	10
Min.	-	220.00	-	15.00	3.20	30.00	-	0.18	0.80
Max.	-	2,250.00	-	176.20	46.00	285.00	-	10.00	5.20
Avg.	-	657.27	-	44.68	10.15	133.64	-	3.88	2.38
50%	-	460.00	-	28.50	4.80	85.00	-	3.03	2.00
75%	-	650.00	-	46.60	9.40	213.75	-	4.75	3.10
Dry Season (Apr. '95 - Sep. '95)									
No.	0	5	0	5	5	5	0	4	4
Min.	-	410.00	-	18.00	3.20	47.50	-	0.18	0.80
Max.	-	2,250.00	-	176.20	19.20	242.50	-	4.00	2.80
Avg.	-	898.00	-	65.68	8.24	123.00	-	2.45	1.90
50%	-	510.00	-	31.00	4.80	75.00	-	2.82	2.00
75%	-	860.00	-	63.00	10.40	185.00	-	3.20	2.20

Table 3.5.34 Water Quality Data of Crowborough STW (TF/BNR)

Sample Point	Sampling Date	Flow (Total / TF / BNR) (m ³ /day)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed (PV)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
Raw	1/5/95	44,700	6.78	9.0	596.0	78.4	350.9	150.0	24.0	46.0	-	-	-	230.0	6.0	830.5
TF-Eff		28,700	7.45	TR	73.0	24.4	85.9	193.0	17.5	32.0	NIL	NIL	<8hrs	190.0	8.8	96.9
BNR-Eff		16,000	7.59	TR	14.0	7.2	10.9	161.0	0.2	3.9	TR	NIL	-	330.0	1.5	249.1
Raw	9/5/95	51,000	6.77	9.0	710.0	104.0	810.4	207.0	25.0	46.0	-	-	-	300.0	5.6	1,289.7
TF-Eff		34,700	7.23	TR	89.0	24.0	135.4	161.0	20.0	28.0	NIL	-	<8hrs	360.0	3.0	293.6
BNR-Eff		16,300	7.64	TR	13.5	6.8	16.4	161.0	0.4	2.1	0.07	NIL	-	230.0	1.0	99.2
Raw	17/5/95	52,400	7.06	13.0	1,034.0	115.2	871.0	193.0	18.0	48.0	-	-	-	300.0	9.5	2,470.6
TF-Eff		36,400	7.52	TR	74.0	25.6	86.0	153.0	5.0	18.0	NIL	NIL	<6hrs	360.0	3.3	337.3
BNR-Eff		16,000	7.55	TR	2.0	8.0	5.0	153.0	TR	0.8	0.07	NIL	-	350.0	1.9	51.0
Raw	25/5/95	45,200	7.12	18.0	740.0	58.4	560.7	150.0	25.0	57.0	-	-	-	300.0	6.0	1,725.5
TF-Eff		29,000	7.64	TR	81.0	23.2	120.7	153.0	29.0	34.0	NIL	NIL	<8hrs	370.0	4.8	352.9
BNR-Eff		16,200	7.85	TR	8.8	6.8	5.7	146.0	0.2	1.9	NIL	NIL	-	310.0	0.3	90.2
Raw	12/6/95	45,200	7.21	20.6	540.0	104.0	560.4	147.0	30.0	62.0	-	-	-	300.0	7.8	1,210.0
TF-Eff		28,900	7.46	TR	116.0	29.0	157.4	163.0	25.5	40.0	NIL	NIL	<8hrs	370.0	5.6	341.3
BNR-Eff		16,300	7.61	TR	13.0	6.6	4.4	163.0	0.6	4.4	NIL	STR	-	390.0	0.2	99.2
Raw	18/6/95	45,000	6.87	10.0	830.0	107.2	340.2	137.0	27.0	64.0	-	-	-	210.0	6.2	2,422.5
TF-Eff		28,900	2.66	TR	59.0	30.6	50.0	322.0	29.5	48.0	NIL	NIL	-	NIL	10.0	341.1
BNR-Eff		16,100	7.26	TR	1.5	14.2	3.3	161.0	0.6	2.4	0.07	1.10	-	210.0	0.2	85.3
Raw	26/6/95	47,400	7.02	13.0	1,050.0	75.6	-	183.0	36.5	62.0	-	-	-	230.0	8.4	1,455.2
TF-Eff		32,900	7.25	TR	80.5	25.5	-	153.0	31.5	49.0	NIL	TR	-	300.0	8.0	302.2
BNR-Eff		14,500	7.14	TR	5.0	6.6	-	151.0	0.7	3.8	0.12	NIL	-	220.0	0.1	74.6
Raw	4/7/95	46,000	6.94	14.0	1,140.0	99.8	470.2	207.0	34.0	78.0	-	-	-	250.0	9.0	-
TF-Eff		29,800	7.58	TR	108.0	29.9	-	189.0	36.0	53.0	NIL	NIL	-	390.0	6.5	-
BNR-Eff		16,200	7.96	TR	21.0	6.6	-	151.0	13.0	4.2	0.11	TR	-	250.0	0.1	-
Raw	12/7/95	43,100	6.88	12.0	410.0	110.0	530.3	216.0	39.5	55.0	-	-	-	240.0	7.8	1,390.0
TF-Eff		26,300	7.30	TR	50.0	31.3	40.3	176.0	40.0	54.0	0.40	NIL	-	350.0	0.8	284.0
BNR-Eff		16,800	7.70	TR	45.0	0.1	47.8	170.0	38.5	3.0	0.12	NIL	-	290.0	0.3	260.0
Raw	20/7/95	45,300	7.70	13.0	770.0	89.2	640.2	187.0	39.5	89.0	-	-	-	330.0	13.6	1,409.0
TF-Eff		30,100	7.30	TR	103.0	24.9	132.7	187.0	29.0	47.0	0.10	NIL	-	360.0	7.6	282.0
BNR-Eff		15,200	7.69	TR	39.0	5.3	9.4	143.0	0.5	2.3	0.10	NIL	-	240.0	0.4	60.0
Raw	6/8/95	40,300	6.96	6.0	-	80.8	840.8	151.0	31.5	55.0	-	-	-	300.0	7.1	1,667.7
TF-Eff		24,500	7.37	TR	-	22.2	8.3	153.0	33.0	41.0	0.00	NIL	-	330.0	5.9	216.4
BNR-Eff		15,800	7.72	TR	-	6.5	7.3	164.0	0.3	1.5	0.10	NIL	-	220.0	0.2	67.2
Raw	13/8/95	39,700	6.82	12.0	910.0	99.0	600.5	175.0	34.5	70.0	-	-	-	300.0	4.0	1,828.4
TF-Eff		24,100	7.16	TR	90.0	27.2	43.0	177.0	29.0	44.0	0.31	-	-	390.0	3.2	328.4
BNR-Eff		15,600	7.53	TR	27.0	8.2	6.5	175.0	0.5	2.7	0.31	-	-	250.0	0.1	104.5
Raw	21/8/95	46,800	6.71	13.0	1,352.0	148.8	1,310.5	229.0	32.5	83.3	-	-	-	250.0	4.6	-
TF-Eff		30,800	7.43	0.6	57.0	32.0	210.5	191.0	26.5	87.3	-	NIL	1	400.0	3.6	-
BNR-Eff		16,000	7.76	TR	49.0	6.8	28.0	193.0	1.5	4.0	0.17	NIL	-	290.0	0.4	-
Raw	29/8/95	48,000	6.46	14.0	690.0	126.8	500.8	217.0	22.0	56.0	-	-	-	300.0	5.6	1,567.5
TF-Eff		31,700	7.25	TR	130.0	32.7	35.8	173.0	28.0	38.0	NIL	NIL	<8hrs	340.0	4.4	301.8
BNR-Eff		14,300	7.56	TR	20.0	6.8	11.3	165.0	1.1	2.2	0.35	NIL	-	360.0	0.3	75.4
Raw	7/9/95	47,400	6.66	18.0	610.0	172.0	1,210.6	277.0	28.5	70.0	-	-	-	210.0	5.9	2,741.2
TF-Eff		31,000	7.51	TR	118.0	35.5	183.1	235.0	27.0	31.6	0.09	NIL	<8hrs	370.0	4.3	447.4
BNR-Eff		16,400	7.75	TR	19.0	6.9	19.1	209.0	1.0	20.0	0.06	NIL	-	240.0	1.5	127.2
Raw	14/9/95	44,000	6.69	10.0	770.0	116.4	950.2	227.0	20.0	38.0	-	-	-	320.0	10.6	2,661.6
TF-Eff		28,000	7.72	TR	163.0	36.4	212.7	233.0	21.0	26.0	nil	nil	<8hrs	420.0	6.8	406.8
BNR-Eff		16,000	7.63	TR	-	9.1	10.2	213.0	0.2	-	TR	1.20	-	310.0	6.4	79.8
Raw	2/10/95	44,200	6.56	14.0	790.0	129.0	642.0	245.0	27.0	57.0	-	-	-	250.0	8.2	1,430.6
TF-Eff		28,000	6.99	0.2	159.0	42.6	104.5	197.0	19.0	41.0	STR	NIL	<8hrs	380.0	4.8	368.5
BNR-Eff		16,200	7.09	TR	18.0	10.4	7.8	191.0	0.4	1.8	0.06	1.10	-	260.0	0.2	68.1
Raw	9/10/95	47,200	7.04	10.0	760.0	120.8	792.3	259.0	29.5	69.0	-	-	-	340.0	7.0	1,518.0
TF-Eff		29,600	7.61	TR	160.0	40.7	197.3	215.0	21.5	33.0	NIL	NIL	<8hrs	390.0	4.8	363.0
BNR-Eff		17,600	7.88	TR	23.0	9.1	6.8	199.0	0.3	1.0	0.06	TR	-	390.0	0.1	122.2
Raw	16/10/95	44,200	6.78	17.0	840.0	131.6	373.6	277.0	32.0	64.0	-	-	-	350.0	15.2	1,376.3
TF-Eff		27,200	7.28	TR	148.0	56.8	148.1	219.0	-	40.0	NIL	NIL	-	430.0	4.2	351.9
BNR-Eff		17,000	7.47	TR	15.0	9.8	5.6	187.0	-	20.0	NIL	NIL	-	370.0	4.0	118.5

Table 3.5.34 Water Quality Data of Crowborough STW (TF/BNR) (cont'd)

Sample Point	Sampling Date	Flow (Total / TF / BNR) (m ³ /day)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed (PV)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
Raw	26/10/95	40,800	6.53	18.0	1,140.0	126.8	901.7	279.0	29.5	66.0	-	-	-	230.0	12.1	2,441.5
TF-Eff		24,000	7.40	TR	101.0	33.3	29.5	207.0	33.5	47.0	STR	NIL	-	350.0	4.5	281.3
BNR-Eff		16,800	7.81	TR	43.0	9.0	27.2	219.0	18.0	32.0	NIL	-	-	310.0	2.8	42.9
Raw	1/11/95	41,500	6.91	10.2	580.0	80.8	700.5	218.0	34.0	66.0	-	-	-	240.0	6.8	1,069.0
TF-Eff		26,000	7.36	TR	145.0	37.0	190.5	212.0	33.0	49.0	TR	TR	-	390.0	9.0	303.5
BNR-Eff		15,500	7.42	TR	10.0	32.2	39.0	212.0	0.5	2.0	0.11	3.40	-	250.0	0.8	140.1
Raw	10/11/95	48,500	6.89	20.0	880.0	132.8	772.3	241.0	35.5	64.0	-	-	-	290.0	7.7	1,766.9
TF-Eff		33,400	7.31	TR	83.0	29.6	19.3	209.0	29.0	44.0	NIL	-	<8hrs	370.0	5.3	297.0
BNR-Eff		15,100	7.67	TR	8.5	7.2	7.3	219.0	0.4	1.3	0.05	TR	-	270.0	0.4	105.3
Raw	27/11/94	47,600	6.78	24.0	1,260.0	162.4	1,000.6	194.0	37.5	90.0	-	-	-	280.0	8.4	1,823.5
TF-Eff		31,500	7.35	TR	132.0	36.8	400.6	214.0	28.0	58.0	TR	NIL	<8hrs	360.0	6.8	470.6
BNR-Eff		16,100	7.81	TR	28.0	4.6	40.6	184.0	0.2	6.0	0.08	NIL	-	290.0	0.2	78.4
Raw	3/12/95	46,800	6.06	4.0	124.0	152.8	700.1	204.0	20.5	63.0	-	-	-	110.0	6.2	1,161.4
TF-Eff		30,800	7.37	TR	32.0	35.5	106.1	178.0	28.0	49.0	NIL	-	<8hrs	350.0	5.6	-
BNR-Eff		16,000	7.90	TR	10.0	36.0	9.1	178.0	0.1	2.0	0.07	1.20	-	220.0	0.8	-
Raw	12/12/95	43,700	6.72	8.0	332.0	112.0	700.1	117.0	18.5	40.0	-	-	-	100.0	4.8	844.4
TF-Eff		28,400	7.11	TR	42.0	18.7	106.1	123.0	10.0	34.0	TR	NIL	<8hrs	220.0	3.5	191.1
BNR-Eff		15,300	7.59	TR	100.0	4.4	9.1	137.0	0.1	15.0	0.10	1.70	-	130.0	2.4	128.9
Raw	23/12/95	73,400	6.95	TR	160.0	33.6	801.2	157.0	25.0	36.0	-	-	-	250.0	4.8	640.0
TF-Eff		56,800	7.28	TR	94.0	26.6	256.2	131.0	23.5	30.0	TR	NIL	-	250.0	4.9	232.0
BNR-Eff		17,600	7.55	0.4	92.0	6.0	14.7	125.0	7.5	17.0	0.10	NIL	-	160.0	1.9	84.0
Raw	4/1/96	58,400	6.61	8.0	500.0	75.2	762.5	217.0	24.5	53.0	-	-	-	220.0	7.2	1,108.9
TF-Eff		41,600	7.20	TR	80.0	36.9	462.5	195.0	20.0	39.0	TR	NIL	<8hrs	310.0	5.2	371.0
BNR-Eff		16,800	7.68	0.2	68.0	6.8	37.5	177.0	8.0	11.0	TR	1.60	21	240.0	0.6	80.6
Raw	21/1/96	78,000	6.98	7.0	80.0	37.6	240.8	97.0	7.5	32.0	-	-	-	160.0	1.2	358.7
TF-Eff		61,800	7.19	TR	56.0	10.8	100.8	77.0	11.5	23.0	TR	NIL	2	170.0	2.4	118.1
BNR-Eff		16,200	7.62	0.4	2.0	4.2	18.3	107.0	6.0	16.0	0.78	1.70	-	170.0	0.5	29.5
Raw	28/1/96	90,000	7.01	TR	32.0	26.0	180.1	69.0	18.0	27.0	-	-	-	180.0	1.6	280.0
TF-Eff		74,700	7.23	TR	88.0	20.4	52.1	75.0	0.5	16.0	NIL	NIL	3	160.0	2.0	149.5
BNR-Eff		15,300	7.60	TR	64.0	5.2	20.1	87.0	55.0	14.0	0.07	2.40	-	140.0	5.0	51.4
Raw	5/2/96	78,200	7.11	9.0	180.0	121.2	340.3	153.0	10.8	44.0	-	-	-	260.0	6.8	1,033.1
TF-Eff		62,400	7.42	TR	15.0	20.0	100.3	115.0	12.2	30.0	NIL	NIL	<8hrs	270.0	5.0	181.8
BNR-Eff		15,800	7.78	TR	30.0	4.8	45.3	101.0	4.0	16.0	TR	6.90	-	240.0	5.6	86.8
Raw	14/2/96	102,100	7.39	5.0	350.0	46.4	-	117.0	9.4	33.0	-	-	-	140.0	2.0	490.2
TF-Eff		86,500	7.53	1.2	94.0	22.7	-	109.0	10.8	25.0	STR	NIL	<8hrs	250.0	3.4	156.9
BNR-Eff		16,800	7.72	TR	59.0	6.2	-	93.0	TR	13.0	TR	4.60	-	140.0	6.1	47.1
Raw	21/2/96	121,400	7.43	7.0	270.0	32.0	221.3	105.0	4.2	27.0	-	-	-	220.0	2.4	231.7
TF-Eff		104,500	7.84	TR	70.0	14.2	51.3	99.0	9.0	27.0	NIL	NIL	4	230.0	2.7	162.2
BNR-Eff		16,900	8.09	TR	29.0	4.6	NIL	97.0	2.8	16.0	TR	1.10	-	180.0	1.3	29.4
Raw	18/3/96	69,000	7.31	10.0	568.0	92.0	480.1	105.0	28.0	52.0	-	-	-	220.0	7.1	1,097.6
TF-Eff		53,000	7.62	TR	220.0	31.8	130.1	121.0	15.0	29.0	0.62	NIL	<8hrs	260.0	5.0	329.3
BNR-Eff		16,000	7.82	TR	25.0	6.6	60.1	105.0	0.3	12.0	NIL	3.10	-	180.0	0.3	97.6
Raw	24/3/96	60,600	6.72	14.0	570.0	80.8	120.1	93.0	15.0	40.0	-	-	-	180.0	5.8	645.2
TF-Eff		44,600	7.16	TR	88.0	22.6	130.1	107.0	20.0	33.0	NIL	STR	<8hrs	290.0	5.7	221.8
BNR-Eff		16,000	7.38	TR	44.0	12.6	40.1	97.0	9.5	29.0	NIL	TR	<8hrs	210.0	1.3	84.7
Raw	1/4/96	63,500	7.18	9.0	920.0	69.6	640.0	119.0	19.5	49.0	-	-	-	190.0	7.3	1,108.9
TF-Eff		50,700	7.70	1.4	243.0	25.0	130.0	117.0	20.0	39.0	STR	NIL	<8hrs	230.0	5.4	181.5
BNR-Eff		12,800	7.82	TR	80.0	6.0	60.0	99.0	5.5	15.0	TR	NIL	-	250.0	0.6	56.5
Raw	9/4/96	62,600	7.11	4.0	420.0	123.6	440.1	295.0	18.0	41.0	-	-	-	260.0	4.0	1,259.4
TF-Eff		48,600	6.78	TR	118.0	27.4	10.1	97.0	17.5	34.0	STR	NIL	<8hrs	210.0	4.4	251.9
BNR-Eff		16,000	6.97	TR	18.0	5.7	30.1	81.0	0.5	0.5	TR	NIL	-	160.0	0.7	58.1
Raw	25/4/96	57,400	6.70	5.0	490.0	84.0	320.7	227.0	24.0	36.5	-	-	-	120.0	5.4	762.1
TF-Eff		41,400	7.00	TR	100.0	31.6	25.7	149.0	25.0	29.5	NIL	NIL	<8hrs	130.0	12.5	282.5
BNR-Eff		16,000	7.00	TR	6.0	5.2	15.7	123.0	0.5	9.0	0.13	1.20	-	160.0	6.7	52.0
Raw	13/5/96	50,700	6.72	1.0	192.0	76.0	600.0	177.0	27.5	37.0	-	-	-	110.0	6.2	611.8
TF-Eff		34,700	7.26	1.0	156.0	34.4	145.5	157.0	30.0	41.0	NIL	NIL	<8hrs	290.0	6.8	354.2

Table 3.5.34 Water Quality Data of Crowborough STW (TF/BNR) (cont'd)

Sample Point	Sampling Date	Flow (Total / TF / BNR) (m ³ /day)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed (PV)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MS Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
ENR-Eff		16,000	7.64	TR	33.0	4.6	65.5	137.0	0.7	10.0	0.03	NIL	-	200.0	0.8	55.4
R ₂ W	20-5-96	58,500	2.85	2.0	234.0	60.8	NIL	-	24.0	33.0	-	-	-	NIL	2.7	1,000.0
TF-Eff		42,500	6.74	TR	94.0	30.4	105.6	133.0	21.0	25.0	NIL	NIL	<8hrs	200.0	3.6	265.5
BNR-Eff		16,000	7.04	TR	8.0	5.4	NIL	221.0	1.0	3.2	NIL	NIL	-	100.0	0.2	40.0

Table 3.5.35 Water Quality Data of Firie STW Unit 1 & 2 (TF)

Sample Point	Sampling Date	Flow (Total/TF)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand	
Raw	11/5/95	115,300	6.92	2.4	290.0	41.60	200.3	157.0	18.0	44.0	-	-	-	400.0	5.2	694.4	
TF-Eff		88,840	6.77	TR	164.0	43.70	167.8	157.0	20.5	36.0	-	NIL	<8HRS	400.0	2.9	388.9	
Raw	28/5/95	-	7.20	22.0	610.0	61.20	640.7	121.0	36.6	66.0	-	-	-	300.0	6.5	1,011.4	
TF-Eff		-	7.21	1.0	78.0	25.60	136.2	125.0	30.0	47.0	NIL	NIL	<8HRS	400.0	4.5	221.4	
Raw	4/6/95	106,600	7.25	TR	148.0	310.80	310.6	125.0	20.0	53.0	-	-	-	450.0	5.6	490.0	
TF-Eff		83,720	7.40	TR	134.0	27.60	95.6	129.0	35.5	48.0	NIL	NIL	<8HRS	450.0	5.4	223.5	
Raw	12/6/95	114,100	7.08	6.0	290.0	60.80	560.9	149.0	32.0	-	-	-	-	340.0	7.5	-	
TF-Eff		84,100	NO SAMPLE				-	-	-	-	-	-	-	-	-	-	-
Raw	20/6/95	111,000	7.39	1.2	300.0	82.80	200.2	133.0	41.0	58.0	-	-	-	250.0	5.2	706.1	
TF-Eff		81,830	NO SAMPLE				-	-	-	-	-	-	-	-	-	-	-
RAW	28/6/95	106,600	7.23	11.0	480.0	80.40	-	143.0	39.0	71.0	-	-	-	280.0	13.2	1,126.5	
TF-Eff		78,760	7.86	TR	197.0	30.00	-	151.0	35.0	60.0	NIL	NIL	-	320.0	3.4	339.9	
Raw	6/7/95	112,000	7.35	14.0	500.0	84.00	470.2	155.0	24.5	45.0	-	-	-	320.0	9.0	1,311.1	
TF-Eff		82,990	7.51	TR	66.0	22.00	107.7	127.0	14.5	36.0	0.2	NIL	-	340.0	2.5	133.3	
RAW	23/7/95	76,000	7.34	16.0	950.0	90.40	620.6	155.0	42.0	69.0	-	-	-	620.0	13.2	1,380.0	
TF-Eff		44,740	7.44	TR	141.0	24.90	215.6	131.0	37.5	49.0	NIL	NIL	-	350.0	5.4	328.0	
Raw	15/8/95	108,000	6.97	22.0	430.0	74.00	840.6	197.0	31.0	87.0	-	-	-	300.0	6.8	970.7	
TF-Eff		81,000	7.00	TR	88.0	21.30	70.5	167.0	48.0	64.0	NIL	NIL	-	250.0	6.4	164.8	
Raw	24/8/95	117,000	7.10	20.0	710.0	117.20	780.3	177.0	46.0	132.0	-	-	-	310.0	7.4	-	
TF-Eff		88,370	NO SAMPLE				-	-	-	-	-	-	-	-	-	-	-
Raw	31/8/95	111,000	7.04	20.0	1,140.0	132.80	820.7	175.0	48.0	98.0	NIL	-	-	330.0	9.8	194.6	
TF-Eff		81,050	7.17	TR	85.0	36.10	148.2	161.0	34.0	43.0	NIL	NIL	-	340.0	4.4	313.5	
RAW	17/9/95	98,000	7.21	4.0	264.0	62.80	541.0	127.0	31.0	76.0	-	-	-	300.0	7.2	711.3	
TF-Eff		66,200	7.28	TR	53.0	35.60	211.0	139.0	42.5	48.0	NIL	NIL	<8HRS	360.0	6.2	292.9	
Raw	24/9/95	96,000	7.83	8.0	410.0	69.60	330.1	177.0	24.0	78.0	-	-	-	340.0	8.8	1,277.1	
TF-Eff		64,100	7.82	TR	50.0	19.00	242.6	161.0	33.5	61.0	NIL	NIL	<8HRS	340.0	3.5	114.6	
Raw	2/10/95	103,000	7.38	18.0	540.0	70.80	681.9	171.0	32.0	56.0	-	-	-	390.0	12.5	985.1	
TF-Eff		75,920	7.58	0.2	78.0	34.00	209.4	163.0	32.5	43.0	STR	NIL	<8HRS	370.0	4.5	338.3	
Raw	10/10/95	115,000	7.50	24.0	970.0	136.00	700.8	333.0	35.5	92.0	-	-	-	490.0	33.0	2,117.1	
TF-Eff		83,000	7.47	TR	105.0	34.40	238.3	169.0	32.6	45.0	NIL	NIL	<8HRS	360.0	6.2	311.5	
Raw	19/10/95	118,000	6.97	11.0	540.0	98.00	681.7	197.0	39.5	95.0	-	-	-	470.0	11.4	1,478.9	
TF-Eff		88,000	7.08	TR	60.0	30.00	248.7	140.0	28.5	60.0	NIL	NIL	-	340.0	5.2	274.9	
Raw	26/10/95	112,000	6.96	12.0	420.0	70.40	400.5	157.0	31.5	92.0	-	-	-	340.0	12.2	1,225.3	
TF-Eff		87,000	6.82	TR	110.0	31.30	148.0	147.0	32.5	34.0	NIL	NIL	-	300.0	5.2	201.6	
Raw	12/11/95	91,000	7.06	14.0	740.0	102.00	1,070.8	167.0	57.0	80.0	-	-	-	360.0	8.8	1,744.8	
TF-Eff		60,600	6.97	4.0	184.0	40.70	340.8	139.0	32.0	50.0	TR	NIL	<8HRS	300.0	5.5	546.9	
Raw	19/11/95	96,000	7.10	7.0	790.0	88.00	583.3	177.0	39.0	64.0	-	-	-	300.0	10.8	1,183.2	
TF-Eff		66,600	7.21	0.4	146.0	29.60	178.3	153.0	33.5	51.0	TR	NIL	<8HRS	310.0	6.1	206.1	
Raw	27/11/95	108,000	7.18	TR	720.0	48.40	540.9	184.0	33.0	60.0	-	-	-	310.0	7.0	461.8	
TF-Eff		80,400	7.32	TR	46.0	27.70	260.9	140.0	26.5	37.0	0.2	NIL	<8HRS	300.0	6.6	184.7	
Raw	5/12/95	109,000	7.05	18.0	480.0	95.60	542.3	176.0	30.5	79.0	-	-	-	290.0	8.1	1,117.6	
TF-Eff		78,600	7.12	TR	52.0	27.70	142.3	140.0	27.5	38.0	STR	NIL	<8HRS	300.0	5.5	447.1	
RAW	21/12/95	101,000	7.23	0.2	148.0	17.60	200.9	151.0	20.0	49.0	-	-	-	390.0	5.0	320.0	
TF-Eff		71,000	7.19	8.0	84.0	19.00	100.9	133.0	23.5	21.0	STR	NIL	-	270.0	6.0	218.0	
Raw	7/1/96	95,000	6.60	12.0	590.0	70.40	342.3	121.0	23.0	54.0	-	-	-	220.0	6.9	943.0	
TF-Eff		65,000	6.52	TR	40.0	17.90	182.3	107.0	23.5	39.6	STR	NIL	<8hrs	250.0	3.4	232.5	

Table 3.5.35 Water Quality Data of Firle STW Unit 1 & 2 (TF) (cont'd)

Sample Point	Sampling Date	Flow (Total/TF)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand	
Raw	15/1/96	119,000	6.66	18.0	750.0	55.60	521.9	127.0	41.5	68.0	-	-	-	230.0	8.2	1,115.9	
TF-Eff		91,800	NO SAMPLE				-										
Raw	22/1/96	252,000	7.23	10.2	184.0	35.20	60.7	93.0	14.5	35.0	-	-	-	170.0	3.5	468.1	
TF-Eff		226,000	7.19	7.0	-	19.30	175.7	91.0	13.0	27.0	0.5	NIL	1	190.0	5.0	263.8	
Raw	30/1/96	320,000	7.28	0.4	1,168.0	62.40	440.6	59.0	10.0	29.0	-	-	-	140.0	2.2	4,651.2	
TF-Eff		302,000	NO SAMPLE				-										
Raw	7/2/96	176,000	7.41	11.0	264.0	45.60	160.5	93.0	19.5	38.0	-	-	-	190.0	4.3	543.9	
TF-Eff		152,000	7.46	TR	52.0	11.80	25.5	79.0	10.5	28.0	1.0	NIL	<8hrs	200.0	1.7	117.2	
Raw	15/2/96	303,000	7.01	12.0	-	44.80	320.8	101.0	16.5	47.0	-	-	-	210.0	3.5	813.5	
TF-Eff		283,000	6.66	6.0	-	20.10	125.8	71.0	12.0	30.0	0.2	NIL	<8hrs	170.0	3.0	341.3	
Raw	3/3/96	187,000	7.16	7.0	344.0	51.20	800.6	77.0	16.5	-	-	-	-	160.0	5.8	579.2	
TF-Eff		162,000	7.08	TR	60.0	11.80	185.6	71.0	11.0	-	0.1	NIL	<8hrs	160.0	4.2	108.1	
Raw	10/3/96	162,000	6.93	2.4	80.0	41.60	101.5	87.0	17.0	78.0	-	-	-	160.0	1.6	423.1	
TF-Eff		131,400	7.05	TR	48.0	16.10	78.5	63.0	14.5	28.0	NIL	NIL	<8hrs	190.0	1.8	157.7	
Raw	18/3/96	154,000	6.96	10.0	420.0	138.40	280.5	87.0	13.0	43.0	-	-	-	170.0	5.2	578.5	
TF-Eff		123,900	7.16	TR	68.0	17.40	35.5	67.0	13.5	28.0	TR	NIL	<8hrs	160.0	3.2	653.0	
Raw	26/3/96	137,000	7.20	12.0	610.0	89.20	320.0	101.0	25.0	70.0	-	-	-	200.0	5.6	1,240.0	
TF-Eff		109,400	6.74	TR	76.0	17.80	100.0	71.0	29.5	39.0	STR	NIL	<8hrs	180.0	4.6	172.0	
Raw	3/4/96	134,000	7.04	TR	156.0	36.00	320.0	365.0	14.0	22.0	-	-	-	190.0	6.4	556.6	
TF-Eff		105,100	7.03	TR	47.0	16.40	100.5	67.0	13.5	16.0	TR	NIL	<8hrs	220.0	6.8	123.0	
Raw	11/4/96	126,000	6.61	14.0	310.0	77.60	360.3	101.0	17.0	46.6	-	-	-	160.0	4.0	992.4	
TF-Eff		103,000	6.81	8.0	284.5	37.60	140.3	67.0	22.0	38.0	STR	NIL	<8hrs	190.0	3.7	480.9	
Raw	28/4/96	111,000	6.85	1.0	590.0	40.00	NIL	113.0	33.5	39.5	-	-	-	200.0	4.4	438.9	
TF-Eff		86,220	7.00	0.2	150.0	16.40	16.0	113.0	10.0	25.0	0.1	NIL	3	200.0	2.0	141.2	
Raw	6/5/96	93,000	6.62	8.0	500.0	144.00	881.0	113.0	23.0	35.0	-	-	-	200.0	6.8	1,723.5	
TF-Eff		65,300	6.86	TR	51.0	17.40	116.0	105.0	30.0	32.0	0.0	NIL	<8hrs	380.0	5.8	174.2	
Raw	14/5/96	118,000	6.98	TR	68.0	128.00	320.3	95.0	36.0	42.0	-	-	-	190.0	3.7	335.8	
TF-Eff		87,820	7.07	4.0	121.0	24.60	215.3	91.0	36.0	46.0	NIL	NIL	<8hrs	210.0	5.3	843.3	
Raw	22/5/96	161,000	6.73	TR	46.0	134.00	NIL	45.0	22.5	24.0	-	-	-	90.0	3.1	235.5	
TF-Eff		136,800	6.58	TR	52.0	11.80	NIL	63.0	11.6	18.0	0.1	NIL	-	200.0	4.2	115.9	

Table 3.5.36 Water Quality Data of Firc STW Unit 3 & 4 (BNR)

Sample Point	Sampling Date	Flow (Total / Unit 3 / Unit 4)	pH	Settleable Solid (cc/l)	Suspended Solid	Oxygen Absorbed (FY)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
Unit3-raw	7/5/95	112,000	7.01	TR	122.0	32.40	190.7	157.0	25.0	39.0				300.0	3.4	478.5
BNR3-eff		12,300	7.39	TR	9.0	7.00	28.2	149.0	0.3	4.6	TR	NIL		280.0	4.4	56.8
Unit4-raw		12,100	7.06	TR	116.0	24.80	360.7	157.0	24.5	34.0				300.0	6.6	478.5
BNR4-eff			7.42	TR	13.5	6.80	98.2	131.0	0.2	2.5	0.1	1.1		310.0	2.8	71.4
Unit3-raw	16/5/95	113,000	7.18	22.0	1,100.0	91.20	510.4	151.0	27.5	64.0				300.0	11.3	1,240.0
BNR3-eff		12,000	7.20	TR	21.0	6.60	12.4	175.0	10.0	18.0	NIL	NIL		250.0	0.9	92.1
Unit4-raw		16,000	7.21	20.0	1,000.0	93.20	480.4	155.0	26.5	63.0				250.0	10.1	1,140.0
BNR4-eff			7.70	TR	27.0	7.40	8.4	139.0	0.8	3.7	0.4	1.2		200.0	0.2	84.0
Unit3-raw	23/5/95	-	7.32	21.0	560.6	80.80	470.3	197.0	34.5	70.0				310.0	8.6	1,082.7
BNR3-eff		-	7.93	TR	15.0	4.60	7.3	125.0	3.5	5.4	TR	NIL		300.0	0.4	86.6
Unit4-raw		-	7.34	24.0	700.0	96.80	470.3	147.0	36.0	67.0				420.0	8.1	1,161.4
BNR4-eff		-	7.94	TR	20.0	6.60	6.8	133.0	0.7	2.8	0.2	NIL		240.0	1.5	86.6
Unit3-raw	31/5/95	110,000	7.71	36.0	880.0	100.00	680.4	152.0	49.0	86.0				366.0	10.4	1,063.4
BNR3-eff		12,000	7.51	TR	15.0	7.60	9.4	138.0	4.8	6.9	0.2	NIL		202.0	0.9	82.1
Unit4-raw		14,570	7.69	30.6	740.0	108.00	710.4	153.0	48.0	85.0				380.0	10.6	1,269.6
BNR4-eff			7.75	TR	21.0	7.40	15.2	153.0	5.3	10.4	0.1	NIL		221.0	1.4	89.6
Unit3-raw	8/6/95	-	7.06	TR	100.0	52.00	290.2	157.0	33.5	54.0				300.0	5.9	551.0
BNR3-eff		-	7.53	TR	2.0	8.20	13.5	143.0	3.2	10.8	0.5	3.2		300.0	1.7	74.8
Unit4-raw		-	7.26	TR	100.0	38.80	310.2	165.0	33.0	58.0				300.0	6.0	728.0
BNR4-eff		-	7.56	TR	2.0	5.00	12.2	157.0	3.3	13.0	0.3	1.0		280.0	0.2	78.7
Unit3-raw	26/6/95	99,000	7.12	7.0	430.0	52.80	680.1	141.0	34.5	62.0				280.0	11.5	792.5
BNR3-eff		6,720	7.65	TR	15.0	6.30	11.0	133.0	2.6	3.4	TR	TR		210.0	2.4	113.2
Unit4-raw		15,720	7.20	8.0	390.0	36.00	411.0	129.0	32.0	62.0				300.0	4.5	861.9
BNR4-eff			7.64	TR	8.5	6.40	25.0	151.0	2.9	4.2	5.1	TR		280.0	0.2	98.1
Unit3-raw	3/7/95	111,000	7.60	17.0	730.0	73.60	100.8	135.0	34.0	74.0				340.0	2.7	1,200.4
BNR3-eff		11,500	7.96	TR	24.0	6.60	7.8	141.0	2.2	3.4	0.1	TR		280.0	1.3	87.7
Unit4-raw		13,690	7.59	11.0	620.0	71.60	200.8	151.0	33.0	75.0				300.0	4.0	1,139.5
BNR4-eff			8.56	TR	137.0	14.80	NIL	143.0	10.2	31.0	0.1	NIL		360.0	1.1	207.2
Unit3-raw	10/7/95	112,000	7.19	13.0	600.0	60.80	300.1	157.0	37.5	70.0				330.0	8.2	1,373.0
BNR3-eff		12,000	7.39	TR	11.0	21.00	37.6	151.0	3.6	10.0	0.3	1.8		210.0	7.5	229.5
Unit4-raw		17,010	7.25	14.0	600.0	85.20	330.1	165.0	38.5	66.0				340.0	12.5	1,229.5
BNR4-eff			7.55	TR	36.0	12.80	3.6	139.0	3.6	12.0	0.3	2.1		190.0	0.4	82.0
Unit3-raw	19/7/95	162,000	7.13	5.0	380.0	96.40	350.1	150.0	45.0	60.0				280.0	5.4	860.0
BNR3-eff		14,000	7.60	TR	25.0	13.00	NIL	148.0	9.3	29.0	0.2	1.6		230.0	0.6	76.0
Unit4-raw		14,770	7.12	TR	220.0	50.80	220.1	150.0	47.5	63.0				280.0	6.2	640.0
BNR4-eff			7.84	TR	9.0	6.90	1.1	152.0	7.0	25.0	0.3	2.8		140.0	0.6	72.6
Unit3-raw	26/7/95	90,000	6.45	11.0	660.0	89.20	470.2	137.0	56.0	75.0				360.0	5.5	1,087.0
BNR3-eff		13,000	7.01	TR	24.0	13.10	6.2	139.0	0.3	6.5	0.1	2.4		220.0	2.5	24.0
Unit4-raw		15,150	6.54	12.0	560.0	85.20	340.2	143.0	43.0	64.0				440.0	4.3	550.0
BNR4-eff			7.04	TR	30.0	8.30	5.7	137.0	0.3	5.0	0.1	TR		230.0	1.5	30.0
Unit3-raw	3/8/95	114,000	7.78	18.0	-	94.00	780.6	171.0	43.0	86.0				380.0	-	1,132.8
BNR3-eff		12,000	8.08	TR	-	5.90	5.6	153.0	0.4	1.7	0.1	NIL		260.0	-	82.0
Unit4-raw		16,900	7.53	24.0	-	97.60	610.6	163.0	111.0	94.0				390.0	-	492.2
BNR4-eff			8.04	7.0	-	9.60	25.6	157.0	1.2	6.5	0.1	TR		240.0	-	148.4
Unit3-raw	20/8/95	92,000	7.06	11.0	918.0	136.80	561.7	149.0	36.5	84.0				300.0	14.9	-
BNR3-eff		12,100	7.79	TR	43.0	6.60	9.7	157.0	0.4	1.7	TR	TR		180.0	1.4	-
Unit4-raw		17,900	7.28	13.0	876.0	67.80	571.7	143.0	40.5	75.0				310.0	8.4	-
BNR4-eff			7.76	TR	49.0	8.20	32.2	153.0	2.8	3.6	0.5	TR		200.0	8.4	-
Unit3-raw	27/8/95	99,000	7.09	14.0	750.0	724.00	570.6	134.0	41.0	54.0				290.0	8.1	-
BNR3-eff		11,600	7.58	TR	42.0	8.80	23.1	167.0	0.5	9.0	0.1	11.5		190.0	5.0	-
Unit4-raw		17,500	7.12	14.0	660.0	78.00	540.6	127.0	39.5	52.0				310.0	7.8	-
BNR4-eff			7.67	TR	29.0	9.00	16.6	161.0	0.6	10.0	0.4	10.5		150.0	2.6	-
Unit3-raw	5/9/95	105,000	7.12	20.0	684.0	117.20	572.3	199.0	43.0	73.0				330.0	11.6	1,594.6
BNR3-eff		14,000	7.62	TR	31.0	5.50	6.3	131.0	0.5	4.5	0.1	6.9		179.0	3.0	216.5
Unit4-raw		16,220	7.21	20.0	688.0	80.40	662.3	201.0	42.0	75.0				340.0	7.2	1,850.4
BNR4-eff			7.83	TR	13.0	6.30	6.3	141.0	0.4	2.5	0.1	3.1		190.0	1.2	102.4

Table 3.5.36 Water Quality Data of Firie STW Unit 3 & 4 (BNR) (cont'd)

Sample Point	Sampling Date	Flow (Total / Unit 3 / Unit 4)	pH	Settleable Solid (cent)	Suspended Solid	Oxygen Absorbed (PV)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
Unit3-raw	12/3/95	96,000	7.18	20.0	626.0	105.00	571.5	195.0	47.0	89.0				390.0	13.2	1,541.7
BNR3-eff		14,000	7.71	TR	17.0	3.00	6.5	159.0	0.4	6.5	0.1	2.4		260.0	6.5	262.5
Unit4-raw		16,300	7.18	22.0	830.0	90.40	441.5	199.0	43.0	82.0				390.0	12.6	1,799.4
BNR4-eff			7.70	TR	17.0	4.40	9.0	169.0	0.3	3.0	0.1	4.9		250.0	3.8	108.3
Unit3-raw	21/9/95	115,000	7.32	16.0	642.0	95.60	360.9	185.0	37.0	77.0				370.0	11.0	1,394.9
BNR3-eff		13,600	7.64	TR	33.0	9.80	27.4	183.0	0.3	12.0	0.2	NIL		320.0	3.2	-
Unit4-raw		16,340	7.22	17.0	828.0	110.40	660.9	195.0	43.0	81.0				300.0	12.3	1,710.6
BNR4-eff			7.74	TR	28.0	9.30	6.4	179.0	0.3	7.0	0.2	NIL		220.0	3.8	228.9
Unit3-raw	29/9/95	110,000	7.18	16.0	830.0	124.00	851.0	229.0	47.5	84.0				330.0	12.8	1,831.5
BNR3-eff		13,820	7.85	TR	31.0	10.20	15.0	135.0	0.4	4.1	0.3	4.8		330.0	7.4	106.2
Unit4-raw		16,120	8.24	16.0	840.0	130.00	1,001.0	217.0	46.5	83.0				380.0	13.6	1,694.9
BNR4-eff			7.84	TR	56.0	12.90	33.0	173.0	0.6	4.7	0.2	2.6		240.0	2.4	131.9
Unit3-raw	15/10/95	96,000	7.03	12.0	480.0	83.20	383.2	153.0	30.0	55.0				310.0	-	718.8
BNR3-eff		14,000	7.51	TR	8.0	6.70	7.2	157.0	0.2	3.5	0.1	4.3		220.0	-	75.3
Unit4-raw		17,000	6.97	13.0	600.0	92.00	573.2	155.0	35.0	57.0				310.0	-	842.3
BNR4-eff			7.57	TR	5.0	7.70	5.7	159.0	0.2	4.4	0.1	4.1		210.0	-	68.1
Unit3-raw	23/10/95	98,000	7.39	17.0	830.0	95.60	682.0	163.0	34.5	68.0				300.0	16.8	1,224.9
BNR3-eff		13,000	7.95	TR	19.0	8.10	5.0	161.0	0.4	13.0	5.8	NIL		260.0	3.2	100.4
Unit4-raw		16,000	7.40	18.0	660.0	82.40	482.0	157.0	36.0	69.0				300.0	9.0	1,104.4
BNR4-eff			7.98	TR	17.0	9.30	7.0	159.0	0.3	15.0	3.1	NIL		210.0	2.2	84.3
Unit3-raw	7/11/95	113,000	7.19	14.0	690.0	90.40	722.8	264.0	34.0	76.0				352.0	10.8	1,520.0
BNR3-eff		12,800	7.80	TR	17.0	9.80	12.3	226.0	0.1	2.0	0.1	NIL		232.0	2.8	112.5
Unit4-raw		15,180	7.27	14.0	650.0	120.00	722.8	258.0	32.0	72.0				316.0	12.6	1,395.8
BNR4-eff			7.81	TR	21.0	9.40	14.8	184.0	0.3	2.5	0.1	NIL		228.0	0.6	120.8
Unit3-raw	16/11/95	102,000	7.12	36.0	880.0	121.60	681.5	217.0	40.0	82.0				290.0	10.7	1,445.3
BNR3-eff		14,000	7.53	100.0	118.0	49.90	153.2	177.0	0.2	63.0	TR	NIL	4	270.0	7.2	574.2
Unit4-raw		16,770	7.20	40.0	1,230.0	116.80	920.9	205.0	36.0	85.0				320.0	11.7	1,640.6
BNR4-eff			7.63	1.0	79.0	17.30	22.7	197.0	0.3	25.0	0.1	NIL	6	250.0	1.3	207.0
Unit3-raw	24/11/95	96,000	7.11	20.0	75.0	104.00	500.9	189.0	35.0	77.0				300.0	10.8	1,142.2
BNR3-eff		12,500	7.83	TR	9.0	8.20	110.9	157.0	0.1	1.7	0.1	NIL		220.0	1.8	69.0
Unit4-raw		17,000	7.14	22.0	810.0	106.40	980.0	187.0	38.0	80.0				310.0	11.6	1,034.5
BNR4-eff			7.82	TR	25.0	12.50	-	153.0	0.6	3.6	0.2	NIL		230.0	0.4	75.3
Unit3-raw	12-10-95	127,000	7.23	0.2	640.0	30.00	151.2	131.0	26.0	43.0				210.0	4.0	997.1
BNR3-eff		11,347	7.68	TR	50.0	7.30	17.2	147.0	0.3	15.0	0.1	NIL		220.0	2.2	85.8
Unit4-raw		14,300	7.17	5.0	500.0	57.20	401.2	137.0	25.0	58.0				250.0	5.2	708.5
BNR4-eff			7.64	TR	19.0	11.00	10.2	157.0	0.3	18.0	0.2	NIL		200.0	1.6	103.0
Unit3-raw	18/12/95	95,000	7.10	17.0	556.0	59.60	601.5	177.0	37.0	54.0				280.0	16.6	930.2
BNR3-eff		14,000	7.54	STR	14.0	7.60	11.5	181.0	0.2	18.0	0.1	TR		200.0	1.9	85.3
Unit4-raw		16,000	7.18	16.0	528.0	69.20	901.5	149.0	58.0	80.0				270.0	13.6	755.8
BNR4-eff			7.49	STR	22.0	7.40	6.5	157.0	0.2	13.0	0.3	4.5		170.0	2.7	69.8
Unit3-raw	2/1/96	123,000	7.07	18.0	560.0	88.40	301.2	145.0	27.0	85.0				250.0	10.4	796.8
BNR3-eff		13,000	7.45	TR	8.0	5.50	1.1	119.0	0.2	0.8	0.0	NIL	21	130.0	5.4	27.9
Unit4-raw		14,800	7.02	14.0	490.0	140.40	331.2	127.0	28.5	70.0				240.0	8.0	617.5
BNR4-eff			7.33	TR	6.0	5.80	1.0	107.0	0.1	0.6	0.1	NIL	21	140.0	4.2	31.9
Unit3-raw	10/1/96	118,000	7.48	16.0	740.0	85.60	461.4	137.0	30.0	57.0				280.0	11.0	931.8
BNR3-eff		14,000	7.84	TR	42.0	7.50	36.4	129.0	0.3	15.0	0.2	4.0	21	170.0	2.0	63.6
Unit4-raw		16,000	7.41	12.0	660.0	86.00	641.4	149.0	34.0	50.0				300.0	7.3	1,136.4
BNR4-eff			7.85	TR	66.0	38.00	31.4	129.7	2.4	18.0	0.4	3.1	21	210.0	12.0	90.0
Unit3-raw	18/1/96	161,000	7.17	19.0	472.0	81.60	321.1	119.0	28.0	65.0				220.0	6.2	790.6
BNR3-eff		10,610	7.37	TR	15.0	8.20	41.1	117.0	0.2	15.0	0.3	6.1	21	140.0	3.6	72.6
Unit4-raw		15,400	7.10	11.0	416.0	81.60	321.1	117.0	28.0	62.0				230.0	4.7	854.7
BNR4-eff			7.45	1.8	18.0	6.70	11.1	113.0	0.2	20.0	0.1	7.4	21	140.0	2.2	76.9
Unit3-raw	4/2/96	220,000	7.23	9.0	1,500.0	59.20	741.2	97.0	24.0	50.0				210.0	4.5	1,049.4
BNR3-eff		8,000	7.49	0.2	49.0	7.40	46.2	91.0	0.1	20.0	TR	8.6	-	170.0	2.7	107.0
Unit4-raw		13,000	7.18	7.0	310.0	48.80	171.2	97.0	16.0	42.0				220.0	6.4	555.6
BNR4-eff			7.66	TR	25.0	7.80	61.2	95.0	0.2	15.0	0.1	5.7	-	160.0	2.0	111.1

Table 3.5.36 Water Quality Data of Firle STW Unit 3 & 4 (BNR) (cont'd)

Sample Point	Sampling Date	Flow (Total / Unit 3 / Unit 4)	pH	Settleable Solid (cc/f)	Suspended Solid	Oxygen Absorbed (PV)	Biochemical Oxygen Demand	Chloride	Ammonia Nitrogen	Kjeldahl Nitrogen	Nitrite	Nitrate	MB Stability (days)	T-Alkalinity	Phosphate	Chemical Oxygen Demand
Unit3-raw	11/2/96	173,000	7.00	8.0	380.0	30.00	321.2	85.0	12.0	40.0	-	-	-	190.0	5.6	458.0
BNR3-eff		6,000	7.49	TR	15.0	8.70	6.2	81.0	TR	18.0	0.1	4.5	-	180.0	1.2	67.7
Unit4-raw		14,000	7.05	9.0	320.0	22.00	881.2	81.0	10.0	38.0	-	-	-	200.0	6.4	418.3
BNR4-eff			7.53	0.2	35.0	3.40	26.2	83.0	0.1	18.0	0.5	4.0	-	170.0	1.8	59.8
Unit3-raw	20/2/96	175,000	7.45	2.4	164.0	32.40	181.8	95.0	20.0	43.0	-	-	-	330.0	5.1	262.9
BNR3-eff		10,000	7.17	TR	8.0	6.10	8.8	99.0	0.1	22.0	0.1	5.5	-	160.0	2.7	23.3
Unit4-raw		14,000	7.46	TR	68.0	21.20	131.8	95.0	17.5	43.0	-	-	-	220.0	4.3	214.0
BNR4-eff			7.18	TR	16.0	3.70	4.3	91.0	TR	25.0	TR	NIL	-	130.0	1.8	27.2
Unit3-raw	6/3/96	264,000	7.25	4.2	216.0	63.60	210.8	87.0	22.5	34.0	-	-	-	200.0	2.9	354.3
BNR3-eff		14,000	7.66	TR	23.0	7.30	NIL	81.0	TR	12.0	STR	5.5	-	150.0	1.1	133.8
Unit4-raw		13,000	7.27	6.0	296.0	42.00	200.8	79.0	26.0	33.0	-	-	-	220.0	3.2	630.0
BNR4-eff			7.52	TR	14.0	7.30	NIL	85.0	TR	10.0	0.2	5.5	-	130.0	0.7	63.0
Unit3-raw	14/3/96	180,000	7.25	2.0	410.0	80.40	201.1	81.0	30.5	22.0	-	-	-	190.0	10.8	1,012.4
BNR3-eff		13,000	7.63	TR	32.0	3.50	41.1	77.0	STR	0.5	NIL	NIL	-	170.0	0.9	41.3
Unit4-raw		14,000	7.21	18.0	730.0	82.00	201.1	87.0	22.5	24.0	-	-	-	200.0	7.2	909.1
BNR4-eff			7.70	TR	42.0	11.60	NIL	87.0	STR	0.4	3.1	TR	-	150.0	1.2	66.1
Unit3-raw	15/4/96	111,000	6.51	2.0	200.0	45.20	640.0	111.0	30.5	32.0	-	-	-	240.0	6.5	576.9
BNR3-eff		16,000	6.82	TR	7.0	5.50	7.5	95.0	0.3	1.4	TR	4.8	-	140.0	1.3	42.3
Unit4-raw		10,000	6.65	16.0	496.0	68.40	300.0	119.0	32.5	34.0	-	-	-	250.0	6.1	884.6
BNR4-eff			6.83	TR	5.0	5.30	7.5	93.0	0.3	1.4	0.1	7.1	-	110.0	0.8	46.2
Unit3-raw	24/4/96	118,000	7.09	3.0	464.0	48.00	280.1	151.0	32.5	37.0	-	-	-	200.0	6.9	490.2
BNR3-eff		16,000	6.84	0.2	26.0	11.00	NIL	117.0	0.2	20.0	STR	1.5	-	200.0	1.7	62.7
Unit4-raw		15,310	6.79	4.0	364.0	44.00	380.1	117.0	35.0	40.0	-	-	-	250.0	6.9	764.7
BNR4-eff			6.90	3.6	48.0	5.00	15.1	137.0	0.1	18.0	NIL	0.5	-	200.0	4.0	109.8
Unit3-raw	2/5/96	97,000	6.96	2.0	140.0	63.60	41.3	117.0	35.0	48.0	-	-	-	170.0	4.9	633.6
BNR3-eff		14,840	7.31	TR	45.0	7.40	103.8	129.0	3.4	15.0	0.1	NIL	-	230.0	6.5	53.8
Unit4-raw		11,150	7.03	17.0	110.0	80.80	21.3	137.0	30.0	50.0	-	-	-	230.0	6.3	364.8
BNR4-eff			7.34	TR	5.0	6.40	NIL	125.0	0.3	8.0	0.2	2.7	-	200.0	1.4	119.0
Unit3-raw	10/5/96	119,000	6.84	16.0	576.0	72.00	80.4	121.0	35.0	44.0	-	-	-	180.0	4.9	652.8
BNR3-eff		14,900	7.41	TR	74.0	8.20	22.9	97.0	6.5	20.0	0.1	NIL	-	350.0	6.4	49.9
Unit4-raw		14,540	6.78	20.0	796.0	84.80	120.4	137.0	35.0	45.0	-	-	-	210.0	6.1	940.8
BNR4-eff			7.43	TR	65.0	6.20	NIL	101.0	0.5	17.0	TR	NIL	-	170.0	0.8	34.6