DATA OF WATER ANALYSIS

1960	January 12 th.	February 16 th.	March 10 th.	April 11 th.	May 11 th.	June 10 th.
1. pH. Value	7.5	8.1	7.9	8.4	7.6	8.4
2. Turbidity	20.0	20.0	120.0	100.0	160	150
3. Total Residue	205.0	226.0	272.0	253	479	351
4. Suspended Matter	49.0	50.0	55.0	58	62	122
5. Methyl Orange Alkalinity	97	108	109	108	106	108
6. Total Hardness	60.0	100.0	96.0	116	108	100
7. Non-Carbonate Hardness	nil	nil	nil	8	2	nil
8. Carbonate Hardness	60.0	100.0	96.0	108	106	100
9. Chloride Expressed as Cl_2	21.22	22.45	24.86	52.7	59.44	30.93
10. Chloride, Expressed as NaCl.	35.0	37.0	41.0	87	98	51
11. Oxygen Consumed 37° C 3 hrs.	2.68	1.8	1.6	1.45	1.06	1.9
12. Ammonia, free Expressed as N_2	0.24	0.16	0.4	0.028	0.08	0.012
13. Albuminoid Ammonia, Expressed as N_2	0.25	0.15	0.15	0.2	0.2	0.08
14. Nitrate Expressed as N_2	nil	nil	0.8	nil	0.15	1.2
15. Nitrite Expressed as N_2	trace	trace	trace	nil	trace	trace
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	1.2	1.5	0.6	0.6	1.2	1.0
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1960	July 11 th.	August 10 th.	September 13 th.	October 11 th.	November 10 th.	December 16 th.
1. pH. Value	7.7	7.9	7.7	7.7	7.1	7.9
2. Turbidity	120	120	50	55	50	50
3. Total Residue	295	262	270	189	169	135
4. Suspended Matter	104	91	32	62	39	13
5. Methyl Orange Alkalinity	67	58	43	23	36	61
6. Total Hardness	80	48	92	40	48	40
7. Non-Carbonate Hardness	13	nil	49	17	12	nil
8. Carbonate Hardness	67	48	43	23	36	40
9. Chloride Expressed as Cl_2	19.4	8.49	18.8	7.88	8.49	6.67
10. Chloride, Expressed as NaCl.	32	14	31	13	14	11.0
11. Oxygen Consumed 37° C 3 hrs.	2.75	1.8	1.7	2.0	2.4	2.3
12. Ammonia, free Expressed as N_2	0.04	0.004	0.07	0.04	0.16	0.06
13. Albuminoid Ammonia, Expressed as N_2	0.2	0.1	0.15	0.05	0.1	0.25
14. Nitrate Expressed as N_2	0.7	0.12	0.05	nil	nil	nil
15. Nitrite Expressed as N_2	0.03	trace	trace	trace	trace	0.03
16. Sulphate Expressed as $Na_2 So_4$	trace	"	"	"	"	trace
17. Iron	1.0	2.3	0.8	0.9	0.5	0.4
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	"	"	"	"	"	"
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1961	January 11 th.	February 10 th.	March 13 th.	April 10 th.	May 19 th.	June 16 th.
1. pH. Value	7.9	8.1	7.3	7.7	7.4	8.1
2. Turbidity	60	70	87	110	110	70
3. Total Residue	190	216	268	277	401	250
4. Suspended Matter	35	64	60	96	129	59
5. Methyl Orange Alkalinity	86	99	98	108	72	67
6. Total Hardness	76	100	116	122	126	96
7. Non-Carbonate Hardness	nil	1.0	98	89	72	29
8. Carbonate Hardness	76	99	18	38	54	67
9. Chloride Expressed as Cl_2	14.56	10.31	24.02	23.04	30.03	15.77
10. Chloride, Expressed as NaCl.	24.0	17.0	39.56	38.0	49.5	26.0
11. Oxygen Consumed 37° C 3 hrs.	2.2	1.5	3.8	0.951	4.4	1.8
12. Ammonia, free Expressed as N_2	0.2	0.06	0.3	0.072	0.012	-
13. Albuminoid Ammonia, Expressed as N_2	0.2	0.2	0.3	0.09	0.42	-
14. Nitrate Expressed as N_2	nil	nil	0.2	0.004	-	0.1
15. Nitrite Expressed as N_2	nil	nil	0.0405	nil	-	trace
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	0.6	0.9	0.98	0.7	0.3	0.5
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1961	July 12 th.	August 10 th.	September 14 th.	October 17 th.	November 14 th.	December 15 th.
1. pH. Value	7.5	7.85	7.1	7.1	7.9	7.9
2. Turbidity	100	75	70	90	35	30
3. Total Residue	296	199	157	196	180	135
4. Suspended Matter	67	38	48	124	20	13
5. Methyl Orange Alkalinity	64	62	39	31	67	81
6. Total Hardness	56	72	72	64	80	74
7. Non-Carbonate Hardness	56	10	33	33	23	nil
8. Carbonate Hardness	nil	62	39	31	67	74
9. Chloride Expressed as Cl_2	10.49	7.26	7.26	8.49	12.74	5.46
10. Chloride, Expressed as NaCl.	17.30	12.0	12.	14.0	21	9.0
11. Oxygen Consumed 37° C 3 hrs.	2.329	2.03	1.98	2.3	2.5	2.4
12. Ammonia, free Expressed as N_2	-	-	-	-	-	-
13. Albuminoid Ammonia, Expressed as N_2	-	-	-	-	-	-
14. Nitrate Expressed as N_2	nil	0.05	0.03	0.06	0.05	nil
15. Nitrite Expressed as N_2	0.0003	nil	nil	0.012	0.08	trace
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	0.81	1.0	1.1	2.4	0.8	0.4
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	-	-	-	-	-
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	nil	nil	nil	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1962	January 11 th.	February 13 th.	March 14 th.	April 18 th.	May	June
1. pH Value	8.1	8.2	7.7	7.9	7.9	8.9
2. Turbidity	7.5	4.0	8.0	110	100	110
3. Total Residue	219	187	264	311	335	369
4. Suspended Matter	73	12	58	90	58	85
5. Methyl Orange Alkalinity	87	85	110	94	118	108
6. Total Hardness	82	94	112	124	139	134
7. Non-Carbonate Hardness	nil	9	2	30	21	26
8. Carbonate Hardness	83	85	110	94	118	108
9. Chloride Expressed as Cl_2	7.28	11.46	20.62	28.5	38.21	40.02
10. Chloride, Expressed as NaCl.	12	18	34	47.025	63	66
11. Oxygen Consumed 37° C 3 hrs.	1.82	0.84	2.1	2.732	2.1	2.1
12. Ammonia, free Expressed as N_2	-	-	-	-	-	-
13. Albuminoid Ammonia, Expressed as N_2	-	-	-	-	-	-
14. Nitrate Expressed as N_2	0.5	0.1	0.1	-	1.0	1.0
15. Nitrite Expressed as N_2	trace	trace	trace	0.2	0.1	0.035
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	1.7	0.4	0.7	1.32	1.0	0.9
18. Arsenic	-	-	-	-	-	-
19. Lead	-	-	-	-	-	-
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	14	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1962	July 10 th.	August 21 th.	September 12 th.	October 27 th.	November 29 th.	December 13 th.
1. pH Value	7.3	7.3	8.0	8.1	7.5	7.9
2. Turbidity	145	190	165	125	70	110
3. Total Residue	310	311	356	268	207	240
4. Suspended Matter	44	91	62	55	64	120
5. Methyl Orange Alkalinity	85	92	81	56	77	70
6. Total Hardness	114	71	102	94	78	68
7. Non-Carbonate Hardness	29	nil	21	38	1	nil
8. Carbonate Hardness	85	71	81	56	77	68
9. Chloride Expressed as Cl_2	28	5.5	16.5	7.25	4.55	4.25
10. Chloride, Expressed as NaCl.	46.20	25.57	27.2	12	7.5	7.0
11. Oxygen Consumed 37° C 3 hrs.	2.777	1.562	0.8	2.4	2.6	2.8
12. Ammonia, free Expressed as N_2	-	-	0.02	0.025	0.1	0.104
13. Albuminoid Ammonia, Expressed as N_2	-	-	0.05	0.05	0.08	0.232
14. Nitrate Expressed as N_2	-	-	0.05	nil	nil	nil
15. Nitrite Expressed as N_2	0.025	0.25	0.1	nil	trace	0.004
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	1.48	1.2	0.5	0.8	1.0	1.5
18. Arsenic	-	-	-	-	-	-
19. Lead	-	-	-	-	-	-
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1963	January 4 th.	February 14 th.	March 6 th.	April 19 th.	May 13 th.	June 10 th.
1. pH. Value	8.6	8.7	7.9	8.1	7.9	8.6
2. Turbidity	160	150	110	150	170	130
3. Total Residue	315	306	320	384	524	364
4. Suspended Matter	172	132	102	118	411	126
5. Methyl Orange Alkalinity	83	99	107	119	114	120
6. Total Hardness	84	100	114	134	110	116
7. Non-Carbonate Hardness	1	1	7	15	nil	nil
8. Carbonate Hardness	83	99	102	119	110	116
9. Chloride Expressed as Cl_2	7.89	20.01	376	77.65	33.36	62.47
10. Chloride, Expressed as NaCl.	130	330	62.0	128	55	103
11. Oxygen Consumed 37° C 3 hrs.	2.9	1.9	2.14	2.2	2.5	2.95
12. Ammonia, free Expressed as N_2	0.092	0.02	0.34	0.32	0.028	0.12
13. Albuminoid Ammonia, Expressed as N_2	0.22	0.18	0.216	0.28	0.2	-
14. Nitrate Expressed as N_2	0.07	0.07	0.03	0.07	0.08	0.05
15. Nitrite Expressed as N_2	0.10	0.005	0.012	0.032	trace	0.005
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	1.7	1.5	2.0	1.3	2.0	1.3
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	8	7.0	9.0
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1963	July 11 th.	August 13 th.	September 13 th.	October 29 th.	November 20 th.	December 30 th.
1. pH Value	7.6	7.8	7.5	7.9	7.4	7.8
2. Turbidity	120	120	95	5	30	55
3. Total Residue	467	290	345	118	127	182
4. Suspended Matter	112	71	90	10	20	60
5. Methyl Orange Alkalinity	110	60	57	39	530	78
6. Total Hardness	144	80	100	54	62	80
7. Non-Carbonate Hardness	34	20	43	15	53	2
8. Carbonate Hardness	110	60	57	39	9	78
9. Chloride Expressed as Cl_2	94.02	16.98	23.04	6.66	3.64	7.27
10. Chloride, Expressed as NaCl.	155	28	38	11	6.0	12.0
11. Oxygen Consumed 37° C 3 hrs.	3.6	1.79	3.52	1.17	1.8	2.4
12. Ammonia, free Expressed as N_2	0.192	0.028	0.008	0.012	0.08	0.028
13. Albuminoid Ammonia, Expressed as N_2	0.96	0.22	0.22	0.08	0.16	0.2
14. Nitrate Expressed as N_2	0.2	0.25	0.28	nil	nil	0.06
15. Nitrite Expressed as N_2	0.44	0.025	0.005	nil	0.002	0.003
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	trace
17. Iron	2.5	2.2	1.3	0.7	0.6	1.5
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1964	January 22 th.	February 28 th.	March 30 th.	April 20 th.	May 4 th.	June 28 th.
1. pH Valeu	7.8	8.0	7.65	7.9	7.5	6.8
2. Turbidity	55	45	70	74	72	92
3. Total Residue	187	188	180	250	281	210
4. Suspended Matter	40	22	39	40	35	70
5. Methyl Orange Alkalinity	82	95	90	110	118	90
6. Total Hardness	87	100	98	90	94	66
7. Non-Carbonate Hardness	7	5	8	nil	nil	nil
8. Carbonate Hardness	82	95	90	90	94	66
9. Chloride Expressed as Cl_2	13.0	18.19	12.74	15.17	11.5	8.0
10. Chloride, Expressed as NaCl.	21.4	30	21	25.00	18.975	13.2
11. Oxygen Consumed 37° C 3 hrs.	1.7	1.35	1.3	1.762	1.865	1.95
12. Ammonia, free Expressed as N_2	0.072	0.028	0.1	-	-	-
13. Albuminoid Ammonia, Expressed as N_2	0.09	0.04	0.06	-	-	-
14. Nitrate Expressed as N_2	0.05	0.06	0.2	-	-	-
15. Nitrite Expressed as N_2	0.004	0.008	nil	0.002	0.0015	0.0005
16. Sulphate Expressed as $Na_2 So_4$	trace	trace	trace	trace	trace	213.12
17. Iron	0.6	0.8	0.8	0.98	1.14	1.8
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	trace	trace	trace	trace	trace	trace
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1964	July 27 th.	August 31 th.	September 28 th.	October 16 th.	November 10 th.	December 15 th.
1. pH Value	7.1	7.5	7.1	6.7	7.5	7.3
2. Turbidity	60	62	22	8.0	8.0	10.0
3. Total Residue	235	190	180	140	135	150
4. Suspended Matter	43	60	20	30	26	16
5. Methyl Orange Alkalinity	50	56	46	34	60	76
6. Total Hardness	62	69	56	59	72	74
7. Non-Carbonate Hardness	12	13	10	25	12	nil
8. Carbonate Hardness	50	56	46	34	60	74
9. Chloride Expressed as Cl_2	2.5	8.0	8.5	9.5	2.5	5.0
10. Chloride, Expressed as N_aCl.	4.125	13.20	14.025	14.675	1.125	8.25
11. Oxygen Consumed 37° C 3 hrs.	2.07	1.565	1.893	2.772	2.309	2.742
12. Ammonia, free Expressed as N_2	-	-	-	-	-	-
13. Albuminoid Ammonia, Expressed as N_2	-	-	-	-	-	-
14. Nitrate Expressed as N_2	-	-	-	-	-	-
15. Nitrite Expressed as N_2	0.006	0.006	0.018	0.01	0.003	0.02
16. Sulphate Expressed as $Na_2 So_4$	60.48	30.72	139.20	149.20	27.84	83.6
17. Iron	1.23	1.3	1.8	1.5	0.8	1.2
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	nil	nil	nil	nil	nil
22. Mg.	1.944	nil	8.748	nil	nil	7.776
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

1965	January 21 th.	February 8 th.	March 25 th.	April 26 th.	May 26 th.	June 21 th.
1. pH Value	7.3	7.5	7.4	7.5	7.5	7.5
2. Turbidity	44	32	50	46	80	120
3. Total Residue	240	260	215	150	200	220
4. Suspended Matter	70	10	41	20	40	60
5. Methyl Orange Alkalinity	94	92	90	94	106	68
6. Total Hardness	92	92	92	82	80	79
7. Non-Carbonate Hardness	nil	nil	2	nil	nil	11
8. Carbonate Hardness	92	92	90	82	80	68
9. Chloride Expressed as Cl_2	10.5	12.5	9.5	8.5	7.5	11.5
10. Chloride, Expressed as NaCl.	17.325	20.625	14.675	14.025	12.375	18.975
11. Oxygen Consumed 37° C 3 hrs.	2.542	0.982	1.356	1.176	1.563	-
12. Ammonia, free Expressed as N_2	-	-	-	-	-	-
13. Albuminoid Ammonia, Expressed as N_2	-	-	-	-	-	-
14. Nitrate Expressed as N_2	-	-	-	-	-	-
15. Nitrite Expressed as N_2	0.032	0.023	0.002	0.001	0.013	0.001
16. Sulphate Expressed as $Na_2 So_4$	132.48	128.43	75.84	71.04	133.44	120.14
17. Iron	0.98	0.49	1.0	1.3	1.10	1.20
18. Arsenic	-	-	-	-	-	-
19. Lead	nil	nil	nil	nil	nil	nil
20. Phenolic Compounds	-	-	-	-	-	-
21. Phenolphthalein alkalinity	nil	8	4	14	4	nil
22. Mg.	9.72	9.72	9.72	-	6.421	-
23. Cu.	nil	nil	nil	nil	nil	nil
24. Zn.	nil	nil	nil	nil	nil	nil
25. Residual Chloride	-	-	-	-	-	-
26. Chloride Expressed as F_2	-	-	-	-	-	-
27. Organic matter.	-	-	-	-	-	-

(Data from The Bangkok water work)