

Appendix 4

Worked Examples of the Disinfection Index Calculation

**2 Kinlochbervie - Water leaving the Works
2004**

<u>Date</u>	<u>mg/l Total Chlorine</u>	<u>Variation round the Mean(mg/l Chlorine)</u>	<u>Variation Round the Mean as a Percentage of the Mean</u>
07/01/2004	0.52	0	0
13/01/2004	0.53	0.01	1.923076923
20/01/2004	0.76	0.24	46.15384615
27/01/2004	0.98	0.46	88.46153846
03/02/2004	0.2	-0.32	-61.53846154
10/02/2004	0.21	-0.31	-59.61538462
17/02/2004	0.18	-0.34	-65.38461538
24/02/2004	0.2	-0.32	-61.53846154
02/03/2004	0.37	-0.15	-28.84615385
09/03/2004	1.22	0.7	134.6153846
16/03/2004	0.02	-0.5	-96.15384615
24/03/2004	0.99	0.47	90.38461538
31/03/2004	1.04	0.52	100
07/04/2004	1.17	0.65	125
14/04/2004	0.88	0.36	69.23076923
20/04/2004	1.65	1.13	217.3076923
27/04/2004	1.76	1.24	238.4615385
05/05/2004	1.93	1.41	271.1538462
11/05/2004	0.7	0.18	34.61538462
17/05/2004	0.75	0.23	44.23076923
25/05/2004	0.62	0.1	19.23076923

01/06/2004	0.67	0.15	28.84615385
08/06/2004	0.64	0.12	23.07692308
15/06/2004	0.29	-0.23	-44.23076923
22/06/2004	0.14	-0.38	-73.07692308
29/06/2004	0.1	-0.42	-80.76923077
06/07/2004	0.11	-0.41	-78.84615385
13/07/2004	0.13	-0.39	-75
20/07/2004	0.16	-0.36	-69.23076923
27/07/2004	0.13	-0.39	-75
03/08/2004	0.86	0.34	65.38461538
10/08/2004	0.03	-0.49	-94.23076923
18/08/2004	0.09	-0.43	-82.69230769
24/08/2004	0.08	-0.44	-84.61538462
31/08/2004	0.07	-0.45	-86.53846154
07/09/2004	0.04	-0.48	-92.30769231
14/09/2004	0.1	-0.42	-80.76923077
21/09/2004	0.1	-0.42	-80.76923077
28/09/2004	0.1	-0.42	-80.76923077
05/10/2004	0.1	-0.42	-80.76923077
12/10/2004	0.12	-0.4	-76.92307692
19/10/2004	0.1	-0.42	-80.76923077
26/10/2004	0.11	-0.41	-78.84615385
02/11/2004	0.08	-0.44	-84.61538462
09/11/2004	1.06	0.54	103.8461538
16/11/2004	0.11	-0.41	-78.84615385
23/11/2004	0.19	-0.33	-63.46153846
30/11/2004	0.16	-0.36	-69.23076923
07/12/2004	0.2	-0.32	-61.53846154
14/12/2004	1.33	0.81	155.7692308
21/12/2004	1.39	0.87	167.3076923
30/12/2004	1.46	0.94	180.7692308

Mean

0.517884615

Worked Examples of the Disinfection Index Calculation

2 Kinlochbervie - Water leaving the Works 2004

Percentage Variation in Descending Order

271.1538462		
238.4615385	Number of Results within +/- 10 % of the Mean	2
217.3076923	Number of Results within +/- 25 % of the Mean	4
180.7692308	Number of Results within +/- 50 % of the Mean	10
167.3076923	Total Number of Samples	52

155.7692308
134.6153846

As a Percentage of the Total Number of Samples

125		
103.8461538		
100		
90.38461538	Results within +/- 10 % of the Mean	3.846%
88.46153846	Results within +/- 25 % of the Mean	7.692%
69.23076923	Results within +/- 50 % of the Mean	19.230%
65.38461538		
46.15384615		
44.23076923		
34.61538462		
28.84615385		
23.07692308		
19.23076923		
1.923076923		

0

-28.84615385		
-44.23076923		
-59.61538462		
-61.53846154		
-61.53846154		
-61.53846154		
-63.46153846		
-65.38461538		
-69.23076923	50 minus 4	46
-69.23076923	90 minus 8	82
-73.07692308	95 minus 19	76
-75		
-75		
-76.92307692		
-78.84615385		
-78.84615385		
-78.84615385		
-80.76923077		
-80.76923077		
-80.76923077		
-80.76923077		
-80.76923077		
-80.76923077		
-82.69230769		
-84.61538462		
-84.61538462		
-86.53846154		
-92.30769231		
-94.23076923		
-96.15384615		

Difference from Target Values

Sum = Disinfection Index = 204