

Derek Clarke, Drinking Water Officer
Office of Drinking Water, Manitoba Conservation and Climate
Box 6000, 75-7th Avenue
Gimli, MB R0C 1B0

July 7, 2020

RE: JUNE 2020 WATER QUALITY COMPLIANCE SUBMISSION FOR THE CITY OF WINNIPEG WATER SUPPLY SYSTEM

Please find attached on-line and grab turbidity summary reports, on-line and grab chlorine summary reports and the UV summary report for the Water Treatment Plant for June 2020.

The June on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. The daily maximum turbidities were greater than 0.30 NTU on several occasions; the elevated turbidities occurred for less than 12 consecutive hours. On June 19, the turbidity on Filter 5 exceeded 1.00 NTU for 55 seconds following an unscheduled power outage; additional information is provided separately in a Corrective Action Report. With the exception of Filter 5 on June 19, the turbidity results for the filter effluent met the licence requirements.

The June on-line and grab sampling chlorine reports include results obtained for the Deacon Booster Pumping Station at the Water Treatment Plant. The free chlorine results at the Water Treatment Plant met the licence requirements.

The June UV summary report includes results obtained for the six UV reactors at the Water Treatment Plant. The UV disinfection results met the licence requirements.

Please let me know of any concerns or questions respecting this submission. I can be reached by telephone at 204-986-8359 or by e-mail at rgrosselle@winnipeg.ca.

Yours sincerely,

*Original signed by R. Grosselle
(Signed original available upon request)*

R. Grosselle
Manager of Environmental Standards

Enclosures

cc: Dr. L. Richards, Winnipeg Regional Health Authority (email)
Dr. H. Chang, Winnipeg Regional Health Authority (email)
Dr. S. Roberecki, Manitoba Health, Seniors and Active Living (email)
M. L. Geer, CPA, CA (email)
G. Patton, P.Eng. (email)
T. Shanks, P.Eng. (email)
M. Szmon, P.Eng. (email)
B. Bradford (email)



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

Water System Code: **252.00**
 Licence Number: **PWS-09-412-01**

WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT

June 2020 Turbidity (NTU)

Date	Raw	Filter #1		Filter #2		Filter #3		Filter #4		Filter #5		Filter #6		Filter #7		Filter #8	
	Avg	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
1/06/2020	0.85	OL	OL	0.00	0.04	0.02	0.05	0.10	0.13	0.02	0.09	0.06	0.13	0.10	0.21	0.04	0.10
2/06/2020	0.91	OL	OL	0.01	0.04	0.02	0.05	0.09	0.16	0.04	0.34	0.08	0.14	0.12	0.29	0.04	0.09
3/06/2020	0.85	OL	OL	0.03	0.07	0.02	0.05	0.07	0.46	0.04	0.08	0.07	0.25	0.09	0.13	0.05	0.10
4/06/2020	0.83	OL	OL	0.07	0.10	0.02	0.07	0.08	0.14	0.04	0.23	0.07	0.16	0.08	0.23	0.07	0.14
5/06/2020	0.91	0.00	0.11	0.05	0.14	0.02	0.07	0.03	0.35	0.04	0.09	0.08	0.13	0.06	0.09	0.03	0.07
6/06/2020	0.93	0.05	0.19	0.04	0.09	0.04	0.09	0.05	0.09	0.06	0.14	0.06	0.15	0.07	0.11	0.03	0.08
7/06/2020	1.03	0.05	0.11	0.04	0.10	0.04	0.09	0.04	0.10	0.05	0.11	0.04	0.10	0.08	0.13	0.03	0.08
8/06/2020	1.10	0.06	0.08	0.04	0.09	0.04	0.10	0.05	0.11	0.07	0.11	0.04	0.11	0.07	0.13	0.04	0.09
9/06/2020	0.77	0.06	0.12	0.04	0.08	0.06	0.08	0.04	0.13	0.06	0.12	0.03	0.07	0.07	0.13	0.04	0.11
10/06/2020	0.73	0.05	0.14	0.05	0.11	0.04	0.12	0.05	0.08	0.05	0.14	0.05	0.15	0.05	0.14	0.03	0.11
11/06/2020	0.85	0.04	0.14	0.04	0.13	0.04	0.14	0.06	0.14	0.05	0.09	0.04	0.28	0.08	0.13	0.04	0.07
12/06/2020	0.85	0.06	0.09	0.03	0.12	0.04	0.07	0.09	0.19	0.08	0.14	0.04	0.14	0.08	0.15	0.04	0.12
13/06/2020	0.91	0.05	0.14	0.05	0.80	0.05	0.14	0.13	0.24	0.06	0.16	0.04	0.10	0.08	0.16	0.04	0.11
14/06/2020	0.93	0.05	0.13	0.05	0.12	0.05	0.14	0.16	0.22	0.06	0.16	0.08	0.14	0.08	0.13	0.04	0.13
15/06/2020	1.02	0.06	0.16	0.06	0.14	0.06	0.16	0.16	0.33	0.07	0.12	0.08	0.17	0.13	0.18	0.07	0.10
16/06/2020	1.15	0.09	0.15	0.07	0.17	0.07	0.19	0.15	0.35	0.11	0.19	0.07	0.18	0.10	0.23	0.08	0.17
17/06/2020	1.30	0.12	0.31	0.09	0.21	0.10	0.23	0.15	0.34	0.07	0.19	0.07	0.16	0.10	0.35	0.06	0.20
18/06/2020	0.98	0.16	0.28	0.04	0.13	0.10	0.18	0.12	0.19	0.06	0.16	0.06	0.13	0.08	0.16	0.05	0.13
19/06/2020	1.15	0.07	0.28	0.04	0.25	0.08	0.29	0.09	0.31	0.03	1.21	0.05	0.17	0.06	0.15	0.04	0.11
20/06/2020	1.31	0.04	0.13	0.02	0.07	0.05	0.10	0.09	0.12	0.02	0.06	0.05	0.12	0.06	0.09	0.03	0.08
21/06/2020	1.43	0.03	0.07	0.02	0.12	0.05	0.08	0.07	0.16	0.01	0.26	0.05	0.15	0.07	0.11	0.03	0.05
22/06/2020	1.17	0.03	0.08	0.01	0.06	0.04	0.08	0.07	0.12	0.02	0.31	0.05	0.16	0.05	0.11	0.02	0.08
23/06/2020	1.12	0.03	0.07	0.02	0.10	0.05	0.08	0.07	0.13	0.02	0.06	0.04	0.12	0.06	0.11	0.03	0.08
24/06/2020	1.62	0.04	0.09	0.02	0.06	0.05	0.11	0.09	0.16	0.02	0.07	0.07	0.18	0.07	0.13	0.04	0.09
25/06/2020	2.00	0.04	0.13	0.03	0.18	0.05	0.18	0.09	0.20	0.03	0.15	0.06	0.20	0.09	0.22	0.05	0.16
26/06/2020	1.24	0.04	0.08	0.02	0.07	0.05	0.11	0.08	0.15	0.03	0.10	0.07	0.16	0.08	0.13	0.04	0.12
27/06/2020	1.21	0.03	0.11	0.02	0.08	0.05	0.22	0.08	0.22	0.02	0.31	0.06	0.18	0.08	0.16	0.05	0.12
28/06/2020	1.66	0.02	0.15	0.02	0.08	0.05	0.11	0.08	0.20	0.01	0.05	0.07	0.21	0.06	0.16	0.04	0.11
29/06/2020	1.39	0.02	0.13	0.01	0.05	0.04	0.10	0.08	0.17	0.01	0.08	0.06	0.36	0.08	0.17	0.03	0.07
30/06/2020	1.72	0.01	0.04	0.01	0.09	0.04	0.11	0.08	0.14	0.01	0.04	0.06	0.17	0.08	0.17	0.05	0.12

Total Number of Measurements Taken, A:	10830	13862	13562	14867	14875	15647	15239	16036
Turbidity Standard for Monitoring Location (NTU):	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Number of Measurements Meeting Standard, B:	10819	13861	13562	14814	14867	15646	15238	16036
Compliance with Turbidity Standard, C = B/A X 100%:	99.898%	99.993%	100.000%	99.644%	99.946%	99.994%	99.993%	100.000%

Note: OL - Off Line

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2020\06-June

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412-01		Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
Date	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	
01-Jun-2020	0.62	0.82	OL	OL	0.06	0.00	0.06	0.03	0.09	0.10	0.07	0.04	0.08	0.06	0.08	0.10	0.07	0.04	
02-Jun-2020	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
03-Jun-2020	0.60	0.79	OL	OL	0.08	0.03	0.09	0.03	0.09	0.10	0.09	0.06	0.10	0.11	0.08	0.10	0.08	0.04	
04-Jun-2020	0.77	0.76	OL	OL	OL	OL	0.09	0.04	0.09	0.09	0.10	0.05	0.10	0.09	0.09	0.08	0.09	0.07	
05-Jun-2020	0.72	0.84	0.09	0.03	0.08	0.12	OL	OL	0.08	0.04	0.08	0.05	0.09	0.08	0.09	0.06	0.08	0.03	
06-Jun-2020	NS	NS	0.11	0.07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
07-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
08-Jun-2020	0.57	1.08	0.10	0.07	0.09	0.04	0.09	0.04	0.09	0.04	0.09	0.07	0.09	0.03	0.11	0.08	0.10	0.04	
09-Jun-2020	0.55	1.08	0.11	0.08	0.11	0.06	0.11	0.06	0.10	0.05	0.11	0.08	0.11	0.05	0.09	0.06	0.09	0.02	
10-Jun-2020	0.58	0.69	0.11	0.08	0.13	0.07	0.13	0.08	0.12	0.07	0.10	0.08	0.12	0.06	0.10	0.07	0.09	0.03	
11-Jun-2020	0.66	0.86	0.11	0.07	OL	OL	0.10	0.05	0.14	0.08	0.11	0.07	OL	OL	0.12	0.08	0.12	0.04	
12-Jun-2020	0.63	0.74	0.10	0.07	0.11	0.05	0.10	0.06	OL	OL	0.10	0.04	OL	OL	0.13	0.01	0.12	0.04	
13-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
14-Jun-2020	0.75	0.74	0.12	0.08	0.14	0.08	0.11	0.07	0.12	0.18	0.11	0.08	0.14	0.09	0.11	0.10	0.11	0.04	
15-Jun-2020	0.76	0.85	0.11	0.08	0.17	0.12	0.11	0.07	0.17	0.24	0.12	0.11	0.17	0.11	0.14	0.12	0.12	0.07	
16-Jun-2020	0.73	1.02	0.15	0.10	0.14	0.09	0.14	0.09	0.19	0.23	0.13	0.10	0.13	0.08	0.17	0.12	0.15	0.09	
17-Jun-2020	0.72	0.94	0.18	0.13	0.16	0.10	0.16	0.11	0.14	0.19	0.19	0.17	0.15	0.11	0.13	0.11	OL	OL	
18-Jun-2020	0.81	0.90	0.15	0.20	0.13	0.05	0.14	0.11	0.14	0.13	0.16	0.11	0.12	0.07	0.12	0.08	OL	OL	
19-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
20-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
21-Jun-2020	1.07	1.20	0.10	0.03	0.10	0.02	0.10	0.05	0.13	0.10	0.10	0.02	0.10	0.06	0.11	0.07	0.13	0.03	
22-Jun-2020	0.83	1.03	0.08	0.03	0.10	0.02	0.08	0.05	0.09	0.07	0.08	0.02	0.10	0.05	0.10	0.06	0.10	0.03	
23-Jun-2020	0.95	1.00	0.10	0.05	0.09	0.03	0.10	0.06	0.08	0.08	0.09	0.03	0.10	0.05	0.08	0.05	0.09	0.01	
24-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
25-Jun-2020	1.11	1.13	0.10	0.05	0.09	0.03	0.10	0.06	0.12	0.11	0.11	0.03	OL	OL	0.12	0.08	0.12	0.05	
26-Jun-2020	1.14	1.19	0.11	0.05	0.10	0.04	0.13	0.07	0.12	0.10	0.14	0.05	0.16	0.09	OL	OL	0.16	0.09	
27-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
28-Jun-2020	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
29-Jun-2020	1.12	1.20	0.07	0.02	0.09	0.02	0.08	0.04	0.11	0.09	0.09	0.02	0.17	0.13	0.12	0.08	0.11	0.04	
30-Jun-2020	1.26	1.04	0.09	0.02	0.09	0.01	0.08	0.05	0.13	0.12	0.11	0.02	0.12	0.07	0.17	0.12	0.14	0.07	
Total number of measurements taken, A:			19		19		20		20		21		18		20		19		
Turbidity Standard for Monitoring Location (NTU):			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30		
Number of measurements meeting standard, B:			19		19		20		20		21		18		20		19		
Compliance with Turbidity Standard, C= B/A X 100%:			100%		100%		100%		100%		100%		100%		100%		100%		

NS: No Sample NA: Not Analyzed OL: Off-Line NR: No Result IM: INStrument Maintenance

Comments:

Filter 1 was offline for scheduled maintenance from May 25 to June 5, 2020.

Report Compiled By: H. Demchenko
Authorized in Sample Manager By: B. Bradford
Date Authorized: 7-Jul-20



WATER TREATMENT PLANT FREE CHLORINE ON-LINE MONITORING REPORT
Deacon Booster Pumping Station

Water System Code: **252.00**
Licence Number: **PWS-09-412-01**
Report Created: **01 July 2020**

Report Period: June 2020

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/06/2020	1.18	1.08	1.20	1.13
02/06/2020	1.22	1.09	1.26	1.13
03/06/2020	1.23	1.15	1.30	1.22
04/06/2020	1.17	0.99	1.21	1.08
05/06/2020	1.15	1.02	1.13	0.97
06/06/2020	1.16	1.06	1.14	1.04
07/06/2020	1.12	1.04	1.12	1.06
08/06/2020	1.10	1.00	1.11	1.03
09/06/2020	1.20	1.11	1.20	1.12
10/06/2020	1.20	1.14	1.21	1.13
11/06/2020	1.26	1.17	1.23	1.15
12/06/2020	1.24	1.07	1.21	1.07
13/06/2020	1.17	1.04	1.17	1.04
14/06/2020	1.25	1.12	1.26	1.12
15/06/2020	1.28	1.15	1.30	1.15
16/06/2020	1.22	1.10	1.21	1.13
17/06/2020	1.28	1.17	1.34	1.21
18/06/2020	1.25	1.18	1.34	1.27
19/06/2020	1.22	0.90	1.22	0.75
20/06/2020	1.37	1.25	1.31	1.23
21/06/2020	1.25	1.12	1.29	1.18
22/06/2020	1.20	1.11	1.24	1.15
23/06/2020	1.16	1.09	1.15	1.07
24/06/2020	1.21	1.15	1.20	1.10
25/06/2020	1.18	1.04	1.27	1.21
26/06/2020	1.14	1.04	1.29	1.18
27/06/2020	1.16	1.05	1.20	1.13
28/06/2020	1.08	0.92	1.13	1.01
29/06/2020	0.97	0.89	1.06	0.99
30/06/2020	1.01	0.93	1.09	0.98

Total Number of Measurements, A:	20858	20857
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20858	20857
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2020\06-June

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



WATER TREATMENT PLANT CHLORINE GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412-01	Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)
	Analysed	Grab	Grab	Analysed	Grab	Grab
01-Jun-2020	1.17	1.24	1.38	1.27	1.23	1.39
02-Jun-2020	ns	ns	ns	ns	ns	ns
03-Jun-2020	1.22	1.19	1.35	1.24	1.23	1.37
04-Jun-2020	1.20	1.20	1.36	1.22	1.21	1.44
05-Jun-2020	1.18	1.12	1.33	1.19	1.19	1.35
06-Jun-2020	ns	ns	ns	ns	ns	ns
07-Jun-2020	ns	ns	ns	ns	ns	ns
08-Jun-2020	1.04	1.06	1.27	1.06	1.11	1.22
09-Jun-2020	1.23	1.26	1.35	1.25	1.25	1.37
10-Jun-2020	1.20	1.22	1.47	1.20	1.25	1.43
11-Jun-2020	1.29	1.23	1.47	1.27	1.25	1.49
12-Jun-2020	1.29	1.28	1.51	1.24	1.29	1.49
13-Jun-2020	ns	ns	ns	ns	ns	ns
14-Jun-2020	1.15	1.20	1.40	1.15	1.23	1.45
15-Jun-2020	1.29	1.33	1.56	1.33	1.28	1.41
16-Jun-2020	1.24	1.33	1.52	1.19	1.30	1.51
17-Jun-2020	1.26	1.35	1.52	1.29	1.36	1.49
18-Jun-2020	1.31	1.36	1.57	1.42	1.37	1.52
19-Jun-2020	ns	ns	ns	ns	ns	ns
20-Jun-2020	ns	ns	ns	ns	ns	ns
21-Jun-2020	1.28	1.29	1.54	1.28	1.38	1.53
22-Jun-2020	1.21	1.22	1.40	1.29	1.20	1.41
23-Jun-2020	1.15	1.19	1.35	1.16	1.16	1.35
24-Jun-2020	ns	ns	ns	ns	ns	ns
25-Jun-2020	1.21	1.22	1.42	1.24	1.20	1.37
26-Jun-2020	1.17	1.18	1.38	1.30	1.27	1.46
27-Jun-2020	ns	ns	ns	ns	ns	ns
28-Jun-2020	ns	ns	ns	ns	ns	ns
29-Jun-2020	0.93	1.00	1.19	1.02	1.05	1.24
30-Jun-2020	0.98	1.05	1.23	1.07	1.12	1.24
Total number of measurements taken, A:		21			21	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		21			21	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

NS: No Sample NA: Not Analyzed OL: Off-Line NR: No Result IM: Instrument Maintenance

Comments:

Report Compiled By: H. Demchenko

Authorized By: B. Bradford

Date Authorized: 7-Jul-20



CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
WATER SERVICES

Water System Code: 252.00
Licence Number: PWS-09-412-01

WATER TREATMENT PLANT UV REPORT

Report Period: June 2020

Report Created: Wednesday, July 01, 2020

Date	Transmittance %			UVR-D100A			UVR-D200A			UVR-D300A			UVR-D400A			UVR-D500A			UVR-D600A			Total			% Volume Treated To Dose				
	UV1 Avg	Untreated	To	Untreated	Below	To	Untreated	Below	To	Untreated	Below	To	Untreated	Below	To	Untreated	Below	To	Untreated	Below	To	Untreated	Below	To					
01/06/2020	94.35	0.00	64.76	64.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.93	198.93	100.00		
02/06/2020	93.96	0.00	0.12	78.25	78.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	215.70	215.81	99.95	
03/06/2020	93.58	0.00	0.22	79.77	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	224.48	224.70	99.90	
04/06/2020	93.19	0.00	0.29	78.73	79.03	0.00	0.03	0.06	0.09	0.00	0.00	10.58	10.58	0.00	0.00	67.36	67.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	236.86	237.49	99.86
05/06/2020	92.89	0.00	0.00	68.17	64.87	0.00	0.00	0.00	0.00	0.00	0.00	63.40	63.40	0.00	0.00	25.94	25.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	247.85	247.85	100.00
06/06/2020	92.67	0.00	0.00	66.11	68.11	0.00	0.00	0.00	0.00	0.18	0.18	70.61	70.98	0.00	0.00	2.29	2.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	236.72	237.43	99.83
07/06/2020	92.76	0.00	0.00	73.84	73.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.73	79.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	226.82	226.82	100.00
08/06/2020	92.89	0.00	0.00	65.30	65.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.25	70.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	200.57	200.57	100.00
09/06/2020	93.17	0.00	0.00	62.15	62.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.84	66.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	191.08	191.08	100.00
10/06/2020	93.58	0.00	0.00	61.94	61.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.61	66.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190.48	190.48	100.00
11/06/2020	93.62	0.00	0.00	61.53	61.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.14	66.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	189.33	189.33	100.00
12/06/2020	93.68	0.00	0.00	63.85	63.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.88	59.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	188.82	188.87	99.98
13/06/2020	93.76	0.00	0.00	70.54	70.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.69	44.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	188.87	189.03	99.97
14/06/2020	93.61	0.00	0.00	73.67	73.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.80	46.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	197.04	197.09	99.97
15/06/2020	93.27	0.18	0.18	47.78	48.13	0.01	0.01	24.41	24.44	0.00	0.00	33.42	33.42	0.00	0.00	17.72	17.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.30	201.51	202.00	99.76
16/06/2020	92.94	0.00	0.00	43.98	43.98	0.00	0.00	28.54	28.54	0.00	0.00	61.50	61.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	215.42	215.52	99.95
17/06/2020	92.75	0.00	0.00	77.93	77.93	0.00	0.00	0.00	0.00	0.00	0.00	66.74	66.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	226.98	226.98	100.00
18/06/2020	94.92	0.00	0.00	85.02	85.02	0.00	0.00	0.00	0.00	0.00	0.00	65.20	65.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	229.64	229.64	100.00
19/06/2020	94.36	0.17	0.41	70.67	71.25	0.00	0.00	0.00	0.00	0.16	0.29	45.45	45.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.47	65.99	66.66	99.07	
20/06/2020	94.25	0.00	0.59	84.39	84.98	0.00	0.00	0.00	0.00	0.00	0.00	54.79	55.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	83.79	84.67	99.14	
21/06/2020	94.26	0.00	0.89	84.13	85.02	0.00	0.00	0.00	0.00	0.00	0.12	56.55	56.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	84.04	84.98	99.14
22/06/2020	94.36	0.00	1.01	84.00	85.00	0.00	0.00	0.00	0.00	0.00	0.16	56.81	56.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	83.97	84.97	99.14	
23/06/2020	94.43	0.00	0.77	77.87	78.64	0.00	0.00	0.00	0.00	0.00	0.13	49.33	49.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	78.90	79.84	99.12	
24/06/2020	94.34	0.00	0.75	76.03	76.78	0.00	0.00	0.00	0.00	0.00	0.07	47.57	47.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	77.54	78.58	99.09	
25/06/2020	94.41	0.01	0.85	52.52	53.38	0.00	0.00	0.00	0.00	0.00	0.12	46.60	46.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.59	153.32	154.92	98.97
26/06/2020	95.24	0.00	1.28	67.32	68.61	0.00	0.00	0.00	0.00	0.00	0.28	78.78	79.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	76.18	77.13	98.88
27/06/2020	96.16	0.00	0.67	68.52	69.19	0.00	0.00	0.00	0.00	0.00	0.22	79.50	79.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	77.30	78.11	99.25
28/06/2020	96.32	0.00	0.62	67.48	68.09	0.00	0.00	0.00	0.00	0.00	0.22	78.24	78.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	76.25	77.16	99.22
29/06/2020	96.28	0.00	0.75	66.89	67.64	0.00	0.00	0.00	0.00	0.00	0.16	77.89	78.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	75.54	76.28	99.25
30/06/2020	96.32	0.00	0.28	67.10	67.39	0.00	0.00	3.18	3.18	0.00	0.33	74.54	74.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	220.57	221.96	99.37
Total [ML]:		0.36	9.68	2088.97	2099.00	0.01	0.05	56.20	56.26	0.34	2.70	1117.49	1120.53	0.00	0.05	820.79	820.83	0.00	0.00	0.00	0.00	0.00	0.00	0.20	10.51	2200.86	2211.56	6356.59	

Water Volume [%]:
Untreated: 0.01 %
Below Dose: 0.36 %
To Dose: 99.62 %

Notes: 1. UV Comparative Dose: 18.1 mJ/cm²

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor