



Kale Black, Sr. Drinking Water Officer
Office of Drinking Water, Manitoba Conservation and Climate
309 – 25 Tupper Street North
Portage La Prairie, MB R1N 3K1

February 4, 2021

RE: JANUARY 2021 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 January 2021.

The January on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. The turbidity results for the filter effluent met the licence requirements.

The January 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 January 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)
C. Diduck (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

January 2021 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
1/01/2021	0.65	0.01	0.03	0.02	0.05	0.03	0.05	0.04	0.06	0.04	0.08	0.06	0.10	0.02	0.04	0.04	0.06
2/01/2021	0.62	0.02	0.04	0.02	0.05	0.02	0.06	0.04	0.10	0.06	0.08	0.06	0.10	0.02	0.05	0.04	0.07
3/01/2021	0.60	0.02	0.04	0.03	0.06	0.03	0.05	0.03	0.07	0.05	0.08	0.07	0.11	0.02	0.06	0.04	0.08
4/01/2021	0.58	0.01	0.04	0.02	0.05	0.03	0.06	0.04	0.20	0.05	0.09	0.06	0.10	0.02	0.04	0.04	0.06
5/01/2021	0.57	0.02	0.04	0.02	0.04	0.03	0.05	0.04	0.07	0.06	0.07	0.05	0.09	0.02	0.05	0.04	0.08
6/01/2021	0.58	0.02	0.05	0.03	0.05	0.03	0.04	0.04	0.08	0.05	0.08	0.07	0.09	0.02	0.05	0.04	0.08
7/01/2021	0.58	0.02	0.04	0.03	0.05	0.03	0.06	0.04	0.05	0.05	0.09	0.06	0.10	0.02	0.04	0.04	0.08
8/01/2021	0.59	0.02	0.03	0.02	0.05	0.03	0.05	0.04	0.09	0.05	0.08	0.06	0.11	0.02	0.05	0.05	0.07
9/01/2021	0.57	0.02	0.04	0.02	0.04	0.02	0.05	0.04	0.11	0.06	0.08	0.06	0.09	0.02	0.05	0.04	0.07
10/01/2021	0.55	0.02	0.05	0.03	0.05	0.03	0.05	0.04	0.07	0.06	0.09	0.07	0.10	0.02	0.03	0.04	0.08
11/01/2021	0.56	0.04	0.18	0.05	0.17	0.05	0.23	0.05	0.18	0.08	0.20	0.07	0.15	0.06	0.23	0.07	0.23
12/01/2021	0.55	0.03	0.05	0.03	0.07	0.03	0.07	0.04	0.08	0.07	0.08	0.07	0.12	0.03	0.06	0.05	0.10
13/01/2021	0.55	0.03	0.07	0.03	0.05	0.03	0.07	0.03	0.15	0.07	0.11	0.08	0.09	0.03	0.06	0.05	0.11
14/01/2021	0.68	0.02	0.07	0.02	0.08	0.03	0.06	0.03	0.07	0.04	0.12	0.06	0.20	0.02	0.11	0.04	0.14
15/01/2021	0.54	0.04	0.06	0.03	0.05	0.03	0.08	0.04	0.08	0.08	0.10	0.07	0.14	0.03	0.07	0.05	0.09
16/01/2021	0.53	0.03	0.07	0.04	0.07	0.04	0.05	0.04	0.11	0.08	0.13	0.10	0.12	0.03	0.05	0.05	0.11
17/01/2021	0.53	0.03	0.04	0.03	0.07	0.04	0.07	0.04	0.06	0.08	0.14	0.09	0.15	0.04	0.08	0.06	0.08
18/01/2021	0.51	0.04	0.07	0.03	0.04	0.03	0.07	0.04	0.09	0.10	0.12	0.10	0.17	0.03	0.08	0.05	0.11
19/01/2021	0.51	0.03	0.08	0.04	0.08	0.04	0.05	0.04	0.08	0.09	0.15	0.12	0.14	0.03	0.05	0.05	0.10
20/01/2021	0.50	0.03	0.06	0.04	0.09	0.04	0.07	0.04	0.06	0.06	0.11	0.07	0.13	0.04	0.07	0.06	0.08
21/01/2021	0.51	0.04	0.10	0.02	0.06	0.01	0.04	0.05	0.11	0.04	0.09	0.04	0.09	0.03	0.13	0.06	0.15
22/01/2021	0.50	0.05	0.10	0.03	0.06	0.00	0.01	0.05	0.09	0.04	0.08	0.04	0.07	0.03	0.06	0.06	0.10
23/01/2021	0.50	0.05	0.09	0.02	0.06	0.00	0.01	0.05	0.09	0.04	0.07	0.04	0.08	0.03	0.05	0.07	0.08
24/01/2021	0.49	0.06	0.07	0.03	0.07	0.01	0.05	0.05	0.09	0.04	0.05	0.04	0.08	0.03	0.06	0.06	0.10
25/01/2021	0.49	0.05	0.10	0.04	0.05	0.01	0.03	0.03	0.06	0.05	0.08	0.04	0.05	0.03	0.06	0.06	0.10
26/01/2021	0.49	0.06	0.12	0.04	0.10	0.02	0.05	0.03	0.07	0.05	0.09	0.05	0.08	0.04	0.06	0.06	0.09
27/01/2021	0.48	0.07	0.08	0.03	0.07	0.02	0.05	0.04	0.08	0.05	0.09	0.04	0.09	0.03	0.07	0.07	0.11
28/01/2021	0.73	0.05	0.14	0.03	0.10	0.01	0.07	0.03	0.13	0.04	0.11	0.04	0.11	0.03	0.08	0.05	0.11
29/01/2021	0.46	0.06	0.11	0.04	0.08	0.02	0.06	0.03	0.07	0.04	0.08	0.04	0.08	0.04	0.05	0.06	0.09
30/01/2021	0.47	0.06	0.08	0.03	0.07	0.02	0.05	0.04	0.06	0.04	0.07	0.04	0.08	0.03	0.06	0.07	0.11
31/01/2021	0.48	0.06	0.10	0.03	0.04	0.02	0.05	0.03	0.07	0.04	0.06	0.04	0.09	0.03	0.08	0.07	0.11

Total Number of Measurements Taken, A:	13058	13231	12008	13843	15357	15480	15276	16990
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:	13058	13231	12008	13843	15357	15480	15276	16990
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2021\01-January

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00 Licence No. PWS-09-412-01	Turbidity (NTU)																	
	Raw Water		Filter 1		Filter 2		Filter 3		Filter 4		Filter 5		Filter 6		Filter 7		Filter 8	
	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser	Grab	Analyser
01-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
03-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
04-Jan-2021	0.59	0.57	0.06	0.02	0.06	0.02	0.07	0.04	0.06	0.04	0.06	0.06	OL	OL	0.07	0.02	0.07	0.04
05-Jan-2021	0.57	0.56	0.06	0.03	0.06	0.03	0.05	0.04	0.07	0.06	0.07	0.07	0.07	0.07	0.08	0.02	0.08	0.05
06-Jan-2021	0.59	0.57	0.07	0.02	0.07	0.04	0.06	0.04	0.05	0.04	0.08	0.07	0.08	0.08	0.07	0.02	0.07	0.03
07-Jan-2021	0.55	0.59	0.06	0.02	OL	OL	0.07	0.04	0.06	0.05	0.06	0.07	0.10	0.10	0.08	0.02	0.07	0.04
08-Jan-2021	0.58	0.56	0.06	0.02	0.06	0.03	OL	OL	0.06	0.05	0.06	0.07	0.07	0.08	0.09	0.03	0.07	0.05
09-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11-Jan-2021	0.60	0.63	0.08	0.03	0.08	0.04	0.10	0.06	0.07	0.05	0.08	0.08	0.14	0.13	0.10	0.04	0.09	0.06
12-Jan-2021	0.53	0.51	0.08	0.04	0.07	0.04	0.06	0.03	0.07	0.06	0.08	0.08	0.09	0.09	OL	OL	0.10	0.06
13-Jan-2021	0.57	0.56	0.08	0.04	0.07	0.04	0.07	0.04	0.07	0.05	0.09	0.08	0.08	0.08	0.07	0.02	0.07	0.04
14-Jan-2021	0.54	0.52	0.07	0.04	OL	OL	0.08	0.04	0.06	0.05	0.07	0.08	0.10	0.10	0.08	0.02	0.08	0.04
15-Jan-2021	0.54	0.54	0.08	0.04	0.08	0.04	0.06	0.04	0.08	0.06	0.08	0.09	0.08	0.09	0.08	0.02	OL	OL
16-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
17-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
18-Jan-2021	0.53	0.49	0.08	0.05	0.08	0.05	0.07	0.04	0.09	0.06	0.09	0.11	0.11	0.12	0.09	0.03	0.09	0.06
19-Jan-2021	0.50	0.50	0.10	0.06	0.08	0.04	0.07	0.04	0.07	0.04	0.10	0.13	0.10	0.13	0.09	0.03	0.08	0.05
20-Jan-2021	0.52	0.49	0.09	0.05	0.09	0.05	0.10	0.06	0.08	0.06	0.09	0.05	0.09	0.06	0.12	0.05	0.11	0.07
21-Jan-2021	0.50	0.49	0.07	0.04	0.07	0.03	0.06	0.03	0.07	0.05	0.07	0.05	0.08	0.05	OL	OL	0.10	0.06
22-Jan-2021	0.51	0.50	0.12	0.09	0.09	0.03	0.08	<0.02	OL	OL	0.09	0.05	0.08	0.05	0.07	0.02	0.07	0.05
23-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
24-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
25-Jan-2021	0.49	0.49	0.09	0.09	0.08	0.04	0.07	0.02	0.07	0.04	0.08	0.07	0.08	0.05	0.08	0.02	0.08	0.06
26-Jan-2021	0.48	0.47	0.08	0.07	0.10	0.06	0.08	0.03	0.07	0.04	0.07	0.06	0.10	0.07	0.08	0.03	0.08	0.06
27-Jan-2021	0.47	0.47	0.09	0.08	0.08	0.04	0.08	0.03	0.07	0.04	0.08	0.07	0.08	0.05	0.10	0.04	0.09	0.07
28-Jan-2021	0.46	0.45	0.11	0.09	0.09	0.05	0.08	0.02	OL	OL	0.09	0.05	0.09	0.07	0.08	0.03	0.07	0.06
29-Jan-2021	0.52	0.45	0.09	0.06	OL	OL	0.10	0.03	0.07	0.04	0.08	0.05	0.11	0.07	0.09	0.03	0.09	0.06
30-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
31-Jan-2021	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:			20		17		19		18		20		19		18		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:			20		17		19		18		20		19		18		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:

Report Compiled By: H. Demchenko

Authorized By: B. Bradford

<N:\Compliance Reporting\Submittal Letters\WTP Turbidity Data>

Report Date: 4-Feb-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 February 2021**

Report Period: January 2021

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/01/2021	1.11	1.06	1.14	1.06
02/01/2021	1.14	0.83	1.14	0.68
03/01/2021	1.27	1.15	1.21	1.03
04/01/2021	1.20	1.07	1.20	1.08
05/01/2021	1.19	1.03	1.24	1.06
06/01/2021	1.18	1.08	1.19	1.09
07/01/2021	1.16	1.06	1.21	1.10
08/01/2021	1.21	1.11	1.27	1.13
09/01/2021	1.28	1.20	1.31	1.20
10/01/2021	1.37	1.22	1.36	1.27
11/01/2021	1.24	0.79	1.25	0.74
12/01/2021	1.23	1.15	1.27	1.15
13/01/2021	1.21	1.10	1.30	1.22
14/01/2021	1.55	1.13	1.64	0.84
15/01/2021	1.22	1.09	1.29	1.18
16/01/2021	1.17	1.05	1.17	1.05
17/01/2021	1.13	1.06	1.08	1.00
18/01/2021	1.13	1.01	1.08	0.97
19/01/2021	1.23	1.14	1.17	1.09
20/01/2021	1.22	1.11	1.17	1.07
21/01/2021	1.27	1.12	1.26	1.12
22/01/2021	1.20	1.13	1.20	1.12
23/01/2021	1.16	1.08	1.18	1.11
24/01/2021	1.12	1.05	1.11	1.04
25/01/2021	1.15	1.06	1.10	1.03
26/01/2021	1.19	1.12	1.19	1.07
27/01/2021	1.18	1.06	1.19	1.09
28/01/2021	1.04	0.62	1.07	0.76
29/01/2021	1.16	0.99	1.23	1.08
30/01/2021	1.21	1.07	1.23	1.09
31/01/2021	1.52	1.18	1.53	1.17

Total Number of Measurements, A:	21347	21342
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21347	21342
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2021\01-January

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew



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)
	Date	Analyser	Grab	Grab	Analyser	Grab
01-Jan-2021	NS	NS	NS	NS	NS	NS
02-Jan-2021	NS	NS	NS	NS	NS	NS
03-Jan-2021	NS	NS	NS	NS	NS	NS
04-Jan-2021	1.21	1.23	1.49	1.24	1.29	1.49
05-Jan-2021	1.16	1.20	1.45	1.21	1.29	1.46
06-Jan-2021	1.17	1.19	1.44	1.14	1.24	1.45
07-Jan-2021	1.19	1.22	1.46	1.18	1.25	1.47
08-Jan-2021	1.26	1.25	1.49	1.24	1.36	1.54
09-Jan-2021	NS	NS	NS	NS	NS	NS
10-Jan-2021	NS	NS	NS	NS	NS	NS
11-Jan-2021	1.13	1.18	1.37	1.23	1.24	1.44
12-Jan-2021	1.25	1.29	1.52	1.25	1.33	1.55
13-Jan-2021	1.20	1.23	1.43	1.29	1.28	1.53
14-Jan-2021	1.29	1.32	1.51	1.32	1.37	1.58
15-Jan-2021	1.28	1.25	1.46	1.37	1.28	1.46
16-Jan-2021	NS	NS	NS	NS	NS	NS
17-Jan-2021	NS	NS	NS	NS	NS	NS
18-Jan-2021	1.06	1.14	1.36	0.99	1.11	1.34
19-Jan-2021	1.23	1.33	1.53	1.16	1.35	1.53
20-Jan-2021	1.24	1.25	1.49	1.18	1.26	1.47
21-Jan-2021	1.34	1.34	1.61	1.27	1.36	1.56
22-Jan-2021	1.17	1.23	1.54	1.18	1.22	1.46
23-Jan-2021	NS	NS	NS	NS	NS	NS
24-Jan-2021	NS	NS	NS	NS	NS	NS
25-Jan-2021	1.15	1.17	1.39	1.09	1.15	1.35
26-Jan-2021	1.18	1.21	1.42	1.18	1.21	1.40
27-Jan-2021	1.19	1.23	1.44	1.17	1.24	1.47
28-Jan-2021	1.13	1.16	1.37	1.13	1.18	1.39
29-Jan-2021	1.22	1.17	1.36	1.30	1.24	1.44
30-Jan-2021	NS	NS	NS	NS	NS	NS
31-Jan-2021	NS	NS	NS	NS	NS	NS
Total number of measurements taken, A:		20			20	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		20			20	
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. B radford

Report Date: 4-Feb-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: **January 2021**

Report Created: **Monday, February 01, 2021**

Date	Transmittance (%)				UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose			
	Branch 1		Branch 2		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]							
	Avg.	Min.	Avg.	Min.	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total	Untreated	Below	To	Total				
01/01/2021	92.4	91.8	94.4	93.9	0.00	0.00	55.07	55.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	56.08	56.62	0.00	0.05	59.29	59.34	0.00	0.00	0.00	0.00	0.00	0.58	170.45	171.03	99.66				
02/01/2021	92.1	0.0	94.2	0.0	0.01	0.01	43.94	43.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.24	26.98	27.30	0.00	0.31	29.59	29.91	0.00	0.00	33.42	33.42	0.03	0.25	29.14	29.42	0.10	0.81	163.08	163.99	99.44
03/01/2021	91.9	91.3	93.9	93.2	0.00	0.00	54.75	54.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	58.39	58.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	56.06	56.69	0.00	1.08	169.20	170.28	99.36
04/01/2021	92.1	91.7	94.3	94.1	0.00	0.07	53.35	53.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	59.96	60.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	58.54	59.20	0.00	1.40	171.86	173.26	99.19
05/01/2021	92.1	91.7	94.2	93.8	0.00	0.16	54.79	54.95	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.56	35.89	36.46	0.00	0.03	22.98	23.01	0.00	0.00	0.00	0.00	0.00	0.57	57.93	58.50	0.01	1.32	171.60	172.93	99.23	
06/01/2021	92.0	91.7	94.0	93.5	0.00	0.33	58.11	58.43	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	0.78	57.96	58.74	0.00	1.10	176.56	177.67	99.38	
07/01/2021	92.0	91.6	94.0	93.6	0.00	0.33	58.19	58.52	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	0.65	58.18	58.83	0.00	0.98	177.04	178.02	99.45	
08/01/2021	91.9	91.5	93.9	93.5	0.00	0.32	58.02	58.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.00	0.00	60.84	60.84	0.00	0.00	0.00	0.00	0.00	1.09	57.58	58.67	0.00	1.42	176.57	177.99	99.20	
09/01/2021	92.0	91.7	94.0	93.6	0.00	0.28	58.12	58.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.01	61.01	0.00	0.00	0.00	0.00	0.00	0.81	57.78	58.60	0.00	1.10	176.92	178.01	99.38		
10/01/2021	92.0	91.8	94.0	93.6	0.00	0.28	58.08	58.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.13	61.13	0.00	0.00	0.00	0.00	0.00	0.98	57.58	58.56	0.00	1.26	176.79	178.05	99.29		
11/01/2021	91.4	89.7	93.2	91.4	0.02	0.65	56.78	57.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	56.35	56.38	0.00	0.00	0.00	0.00	0.00	0.03	0.92	54.03	54.98	0.07	1.58	167.16	168.81	99.03		
12/01/2021	91.8	91.3	93.7	93.3	0.00	0.61	57.87	58.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.25	61.25	0.00	0.00	0.00	0.00	0.00	0.70	58.78	59.48	0.00	1.31	177.90	179.21	99.27		
13/01/2021	91.8	91.5	93.7	93.4	0.00	0.60	61.28	61.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.70	64.70	0.00	0.00	0.00	0.00	0.00	1.02	63.10	64.12	0.00	1.62	189.08	190.70	99.15		
14/01/2021	87.7	91.4	89.6	93.4	0.00	0.52	47.58	48.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.51	46.51	0.00	0.00	0.00	0.00	0.00	0.35	45.08	45.43	0.00	0.87	139.17	140.03	99.38		
15/01/2021	91.8	91.4	93.6	93.3	0.00	0.51	61.51	62.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.49	60.49	0.00	0.00	0.00	0.00	0.00	0.86	58.21	59.08	0.00	1.37	180.21	181.58	99.24		
16/01/2021	91.7	91.4	93.6	93.3	0.00	0.58	59.40	59.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.43	59.43	0.00	0.08	33.95	34.03	0.00	0.61	23.51	24.12	0.00	1.28	176.28	177.56	99.28		
17/01/2021	91.8	91.5	93.7	93.6	0.00	0.37	59.49	59.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.58	59.58	0.00	0.12	58.20	58.32	0.00	0.00	0.00	0.00	0.00	0.50	177.27	177.77	99.72		
18/01/2021	91.7	91.2	93.6	93.3	0.00	0.46	60.02	60.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.21	59.21	0.00	0.12	58.18	58.31	0.00	0.00	0.00	0.00	0.00	0.58	177.42	178.00	99.67		
19/01/2021	91.7	90.9	93.7	93.3	0.00	0.46	59.81	60.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.42	59.42	0.00	0.00	58.31	58.31	0.00	0.00	0.00	0.00	0.00	0.46	177.55	178.01	99.74		
20/01/2021	91.6	91.2	93.6	93.1	0.00	0.64	60.54	61.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.18	61.18	0.00	0.00	59.34	59.34	0.00	0.00	0.00	0.00	0.00	0.64	181.06	181.70	99.65		
21/01/2021	90.3	0.0	92.2	0.0	0.00	0.45	53.76	54.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.34	56.34	0.00	0.21	52.94	53.15	0.00	0.00	0.00	0.00	0.00	0.66	163.04	163.71	99.59		
22/01/2021	91.9	91.6	93.8	93.5	0.00	0.50	59.07	59.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	63.52	63.56	0.00	0.13	60.04	60.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	182.63	183.30	99.64		
23/01/2021	91.8	91.5	93.8	93.4	0.00	0.55	59.80	60.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.23	64.23	0.00	0.09	60.32	60.41	0.00	0.00	0.00	0.00	0.00	0.63	184.35	184.98	99.66		
24/01/2021	91.9	91.5	93.8	93.4	0.00	0.53	58.30	58.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.58	62.58	0.00	0.00	59.68	59.68	0.00	0.00	0.00	0.00	0.00	0.53	180.56	181.09	99.71		
25/01/2021	91.9	91.5	93.9	93.5	0.00	0.49	58.65	59.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.94	62.94	0.00	0.04	27.98	28.02	0.00	0.66	30.93	31.60	0.00	1.19	180.50	181.69	99.34		
26/01/2021	91.8	91.3	93.7	93.4	0.00	0.46	60.06	60.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	64.22	64.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	58.76	60.18	0.00	1.97	183.04	185.01	98.94		
27/01/2021	91.7	91.5	93.7	93.5	0.00	0.53	58.65	59.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.70	62.70	0.00	0.00	0.00	0.00	0.00	1.02	57.81	58.83	0.00	1.55	179.15	180.71	99.14		
28/01/2021	90.5	0.0	92.5	0.0	0.00	0.64	45.30	45.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	47.49	47.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	43.67	44.63	0.00	1.69	136.47	138.15	98.78		
29/01/2021	91.7	91.3	93.7	93.1	0.00	0.63	35.74	36.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	19.52	19.73	0.00	0.00	64.76	64.76	0.00	0.00	0.00	0.00	0.00	1.10	62.95	64.05	0.00	1.95	182.96	184.91	98.95	
30/01/2021	91.6	91.4	93.5	93.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	50.24	50.42	0.00	0.00	66.52	66.52	0.00	0.00	0.00	0.00	0.00	1.49	69.79	71.28	0.00	1.66	186.56	188.22	99.12	
31/01/2021	91.6	91.3	93.5	93.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	50.50	50.86	0.00	0.00	67.13	67.13	0.00	0.00	0.00	0.00	0.00	1.10	70.89	71.99	0.00	1.46	188.52	189.98	99.23	
Total [ML]:					0.03	11.98	1626.03	1638.04	0.00	0.00	0.00	0.00	0.09	2.67	301.61	304.37	0.01	1.12	1683.36	1684.50	0.00	0.83	621.67	622.50	0.05	18.63	1188.27	1206.95	0.18	35.23	5420.95	5456.36				

Water Volume [%]:
Untreated: 0.00 %
Below Dose: 0.65 %
To Dose: 99.35 %

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

Submitted By (Print): D.Merredew

Signature: Original signed by D.Merredew