



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

July 7, 2021

**RE: JUNE 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 June 2021.

The June on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. The maximum turbidity was greater than 0.30 NTU on Filter 7 on June 17, Filter 8 on June 27, and Filter 2 on June 30; the elevated turbidities occurred for less than 12 consecutive hours. On June 29 the turbidity on Filter 8 exceeded 1.00 NTU, additional information is provided separately in a Corrective Action Report. With the exception of this event, 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](mailto: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)  
T. Shanks, M. Eng., P. Eng. (e-mail)  
C. Wiebe, P. Eng., CAMP (e-mail)  
C. Diduck (email)



**CITY OF WINNIPEG**  
 WATER AND WASTE DEPARTMENT  
 WATER SERVICES

Water System Code: 252.00  
 Licence Number: PWS-09-412-02

**WATER TREATMENT PLANT TURBIDITY ON-LINE MONITORING REPORT**

June 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
1/06/2021	0.61	O/L	O/L	0.06	0.14	0.00	0.02	0.02	0.09	0.07	0.15	0.01	0.17	0.10	0.19	0.07	0.15
2/06/2021	0.69	O/L	O/L	0.01	0.06	0.00	0.04	0.00	0.06	0.02	0.11	0.01	0.13	0.04	0.12	0.04	0.11
3/06/2021	0.55	O/L	O/L	0.01	0.03	0.00	0.17	0.00	0.02	0.02	0.05	0.01	0.07	0.05	0.15	0.04	0.06
4/06/2021	0.54	O/L	O/L	0.01	0.04	0.00	0.01	0.01	0.03	0.02	0.08	0.01	0.07	0.05	0.09	0.04	0.08
5/06/2021	0.50	O/L	O/L	0.01	0.05	0.00	0.02	0.01	0.03	0.02	0.05	0.02	0.07	0.05	0.09	0.03	0.06
6/06/2021	0.55	O/L	O/L	0.01	0.05	0.00	0.02	0.01	0.02	0.02	0.05	0.02	0.07	0.06	0.08	0.03	0.07
7/06/2021	0.58	O/L	O/L	0.02	0.08	0.00	0.04	0.02	0.03	0.02	0.04	0.04	0.07	0.06	0.09	0.03	0.07
8/06/2021	0.74	O/L	O/L	0.02	0.10	0.00	0.03	0.02	0.04	0.01	0.05	0.06	0.09	0.07	0.10	0.03	0.06
9/06/2021	1.46	O/L	O/L	0.02	0.13	0.00	0.03	0.02	0.05	0.02	0.06	0.10	0.17	0.07	0.11	0.03	0.08
10/06/2021	1.31	O/L	O/L	0.02	0.06	0.00	0.03	0.02	0.04	0.02	0.04	0.15	0.23	0.09	0.12	0.03	0.06
11/06/2021	0.90	O/L	O/L	0.03	0.18	0.00	0.04	0.02	0.05	0.03	0.05	0.10	0.26	0.06	0.18	0.01	0.04
12/06/2021	0.85	O/L	O/L	0.03	0.13	0.01	0.04	0.02	0.05	0.03	0.06	0.03	0.05	0.03	0.09	0.01	0.03
13/06/2021	0.92	O/L	O/L	0.04	0.13	0.01	0.05	0.03	0.06	0.04	0.08	0.04	0.07	0.04	0.07	0.01	0.03
14/06/2021	1.25	O/L	O/L	0.04	0.08	0.01	0.05	0.04	0.05	0.06	0.15	0.04	0.07	0.04	0.07	0.01	0.05
15/06/2021	1.40	O/L	O/L	0.05	0.10	0.02	0.05	0.04	0.08	0.06	0.11	0.05	0.11	0.05	0.14	0.01	0.03
16/06/2021	1.03	O/L	O/L	0.04	0.11	0.01	0.04	0.05	0.07	0.04	0.09	0.05	0.12	0.06	0.19	0.01	0.07
17/06/2021	0.88	O/L	O/L	0.02	0.14	0.00	0.03	0.05	0.07	0.04	0.10	0.06	0.11	0.08	0.38	0.01	0.03
18/06/2021	0.95	O/L	O/L	0.02	0.05	0.00	0.04	0.05	0.08	0.04	0.08	0.09	0.13	0.10	0.17	0.02	0.08
19/06/2021	0.98	O/L	O/L	0.02	0.05	0.00	0.04	0.05	0.08	0.04	0.08	0.05	0.13	0.06	0.13	0.01	0.05
20/06/2021	0.96	O/L	O/L	0.02	0.06	0.00	0.04	0.05	0.09	0.06	0.08	0.01	0.05	0.03	0.19	0.01	0.04
21/06/2021	0.97	O/L	O/L	0.02	0.05	0.00	0.04	0.05	0.08	0.07	0.10	0.02	0.07	0.02	0.05	0.02	0.05
22/06/2021	0.98	O/L	O/L	0.03	0.10	0.00	0.04	0.05	0.08	0.08	0.22	0.03	0.07	0.01	0.08	0.03	0.07
23/06/2021	1.01	O/L	O/L	0.03	0.06	0.00	0.03	0.05	0.08	0.09	0.19	0.03	0.15	0.03	0.08	0.03	0.07
24/06/2021	0.99	O/L	O/L	0.03	0.10	0.00	0.19	0.05	0.08	0.12	0.19	0.03	0.08	0.03	0.08	0.03	0.07
25/06/2021	0.99	O/L	O/L	0.03	0.08	0.00	0.04	0.05	0.09	0.08	0.22	0.03	0.09	0.03	0.17	0.04	0.07
26/06/2021	0.98	O/L	O/L	0.04	0.07	0.00	0.04	0.05	0.08	0.04	0.09	0.05	0.11	0.04	0.11	0.05	0.09
27/06/2021	1.01	O/L	O/L	0.04	0.22	0.00	0.04	0.05	0.07	0.04	0.07	0.08	0.14	0.05	0.23	0.06	0.44
28/06/2021	1.02	O/L	O/L	0.06	0.12	0.01	0.05	0.06	0.09	0.04	0.16	0.11	0.20	0.07	0.12	0.09	0.13
29/06/2021	1.03	O/L	O/L	0.07	0.10	0.01	0.03	0.04	0.11	0.03	0.09	0.04	0.13	0.04	0.17	0.06	1.32
30/06/2021	1.06	O/L	O/L	0.09	0.36	0.00	0.04	0.02	0.06	0.02	0.28	0.00	0.05	0.01	0.17	0.01	0.04

Total Number of Measurements Taken, A:	0	15102	8630	14829	15768	15600	14902	16337
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:	0	15101	8630	14829	15768	15600	14901	16335
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	99.993%	100.000%	100.000%	100.000%	100.000%	99.993%	99.988%

O/L - Offline

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2021\06-June

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-09-412-02	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-Jun-2021	0.60	0.58	OL	OL	0.07	0.14	0.06	<0.02	0.07	0.08	0.07	0.13	0.07	0.02	0.08	0.18	0.07	0.10
02-Jun-2021	0.60	0.63	OL	OL	0.06	0.02	0.08	<0.02	0.08	<0.02	0.07	0.05	0.08	<0.02	0.08	0.05	0.07	0.04
03-Jun-2021	0.58	0.51	OL	OL	0.06	<0.02	0.07	<0.02	0.06	<0.02	0.07	0.03	0.08	<0.02	0.08	0.05	0.07	0.04
04-Jun-2021	0.54	0.51	OL	OL	0.07	<0.02	0.07	<0.02	0.07	0.02	0.07	0.03	0.07	<0.02	0.06	0.04	0.09	0.05
05-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
06-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07-Jun-2021	0.57	0.55	OL	OL	0.08	0.02	0.07	<0.02	0.08	0.02	0.07	0.02	0.08	0.05	0.09	0.07	0.08	0.03
08-Jun-2021	0.55	0.64	OL	OL	0.07	0.02	0.07	<0.02	0.07	0.02	0.07	0.02	0.07	0.06	0.10	0.08	0.07	0.03
09-Jun-2021	0.54	1.20	OL	OL	0.08	0.02	0.08	<0.02	0.08	0.02	0.08	0.02	0.07	0.11	0.09	0.10	0.08	0.03
10-Jun-2021	0.53	0.54	OL	OL	0.08	0.03	0.10	<0.02	0.10	0.04	0.08	0.03	0.08	0.19	0.09	0.10	0.09	0.03
11-Jun-2021	0.53	0.70	OL	OL	0.08	0.03	0.09	0.02	0.07	0.02	0.08	0.03	0.08	0.26	0.08	0.10	0.10	<0.02
12-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
14-Jun-2021	0.68	1.23	OL	OL	0.10	0.07	0.09	<0.02	0.09	0.04	0.09	0.07	0.11	0.06	0.10	0.04	0.08	<0.02
15-Jun-2021	0.66	0.81	OL	OL	0.10	0.06	0.09	0.02	0.10	0.05	0.09	0.09	0.10	0.06	0.10	0.06	0.10	<0.02
16-Jun-2021	0.69	1.26	OL	OL	0.09	0.07	0.09	0.02	0.09	0.06	0.08	0.04	0.08	0.05	0.09	0.06	0.09	<0.02
17-Jun-2021	0.79	0.80	OL	OL	0.10	0.02	0.09	<0.02	0.10	0.06	0.09	0.05	0.08	0.07	0.10	0.08	0.09	<0.02
18-Jun-2021	0.65	0.88	OL	OL	0.10	0.02	0.10	<0.02	0.10	0.07	0.09	0.07	0.09	0.10	0.09	0.09	0.10	0.02
19-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
21-Jun-2021	0.80	0.95	OL	OL	0.09	0.03	0.10	<0.02	0.08	0.05	0.09	0.08	0.10	0.02	0.10	0.02	0.11	0.02
22-Jun-2021	0.80	0.91	OL	OL	0.10	0.03	0.11	<0.02	0.08	0.05	0.11	0.11	0.10	0.04	0.10	<0.02	0.12	0.03
23-Jun-2021	0.69	1.12	OL	OL	0.10	0.03	0.10	<0.02	0.08	0.06	0.12	0.13	0.11	0.04	0.10	0.03	0.09	0.02
24-Jun-2021	0.89	0.93	OL	OL	0.10	0.05	0.11	0.03	0.08	0.05	0.10	0.15	0.10	0.03	0.09	0.02	0.09	0.03
25-Jun-2021	0.78	0.94	OL	OL	0.12	0.06	0.09	<0.02	0.09	0.06	0.11	0.20	0.10	0.05	0.10	0.03	0.08	0.03
26-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
27-Jun-2021	NS	NS	OL	OL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
28-Jun-2021	0.80	1.08	OL	OL	0.10	0.06	0.10	<0.02	0.09	0.06	0.10	0.04	0.12	0.12	0.11	0.07	0.10	0.09
29-Jun-2021	0.81	0.96	OL	OL	0.10	0.09	0.11	0.02	0.11	0.09	0.08	0.05	0.10	0.10	0.08	0.11	0.09	0.12
30-Jun-2021	0.80	0.96	OL	OL	0.08	0.09	0.08	<0.02	0.08	0.03	0.08	0.03	0.08	<0.02	0.09	<0.02	0.07	<0.02
<b>Total number of measurements taken, A:</b>			0		22		22		22		22		22		22		22	
<b>Turbidity Standard for Monitoring Location (NTU):</b>			0.30		0.30		0.30		0.30		0.30		0.30		0.30		0.30	
<b>Number of measurements meeting standard, B:</b>			0		22		22		22		22		22		22		22	
<b>Compliance with Turbidity Standard, C= B/A X 100%:</b>			OL		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 taken offline for maintenance on April 14th at 4:24 pm and has remained offline.

**Compiled By:** H. Demchenko

**Authorized By:** C. Diduck

**Report Date:** 5-Jul-21



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

Water System Code: **252.00**  
Licence Number: **PWS-09-412-02**  
Report Created: 01 July 2021

Report Period: June 2021

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/06/2021	1.24	1.16	1.23	1.12
02/06/2021	1.31	1.02	1.22	0.87
03/06/2021	1.18	1.01	1.14	0.92
04/06/2021	1.33	1.23	1.30	1.20
05/06/2021	1.36	1.26	1.29	1.20
06/06/2021	1.33	1.20	1.27	1.17
07/06/2021	1.34	1.23	1.39	1.22
08/06/2021	1.27	1.11	1.37	1.11
09/06/2021	1.28	1.11	1.30	1.13
10/06/2021	1.33	1.18	1.31	1.18
11/06/2021	1.33	1.27	1.30	1.20
12/06/2021	1.25	1.17	1.21	1.10
13/06/2021	1.19	1.10	1.16	1.08
14/06/2021	1.22	1.03	1.21	1.10
15/06/2021	1.19	1.09	1.21	1.11
16/06/2021	1.22	0.97	1.26	0.85
17/06/2021	1.39	1.17	1.40	0.99
18/06/2021	1.38	1.23	1.42	1.25
19/06/2021	1.38	1.31	1.37	1.25
20/06/2021	1.26	1.10	1.27	1.11
21/06/2021	1.30	1.12	1.33	1.17
22/06/2021	1.26	0.98	1.33	1.19
23/06/2021	1.25	1.07	1.34	1.18
24/06/2021	1.33	1.23	1.37	1.26
25/06/2021	1.38	1.24	1.41	1.32
26/06/2021	1.37	1.24	1.42	1.24
27/06/2021	1.28	1.16	1.32	1.21
28/06/2021	1.25	1.09	1.26	1.15
29/06/2021	1.31	1.17	1.33	1.19
30/06/2021	1.35	1.24	1.37	1.23

Total Number of Measurements, A:	20882	20880
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20882	20880
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2021\06-June

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-09-412-02	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-Jun-2021	1.28	1.28	1.51	1.28	1.30	1.51
02-Jun-2021	1.34	1.37	1.54	1.35	1.35	1.51
03-Jun-2021	1.21	1.25	1.45	1.19	1.19	1.40
04-Jun-2021	1.33	1.40	1.62	1.35	1.34	1.55
05-Jun-2021	NS	NS	NS	NS	NS	NS
06-Jun-2021	NS	NS	NS	NS	NS	NS
07-Jun-2021	1.27	1.33	1.54	1.32	1.38	1.56
08-Jun-2021	1.26	1.31	1.55	1.34	1.34	1.58
09-Jun-2021	1.31	1.40	1.65	1.33	1.43	1.68
10-Jun-2021	1.37	1.35	1.59	1.35	1.30	1.54
11-Jun-2021	1.36	1.36	1.59	1.33	1.40	1.58
12-Jun-2021	NS	NS	NS	NS	NS	NS
13-Jun-2021	NS	NS	NS	NS	NS	NS
14-Jun-2021	1.25	1.31	1.53	1.22	1.31	1.52
15-Jun-2021	1.18	1.18	1.45	1.16	1.20	1.42
16-Jun-2021	1.08	1.36	1.62	0.96	1.44	1.66
17-Jun-2021	1.26	1.28	1.53	1.10	1.29	1.55
18-Jun-2021	1.23	1.29	1.49	1.26	1.25	1.47
19-Jun-2021	NS	NS	NS	NS	NS	NS
20-Jun-2021	NS	NS	NS	NS	NS	NS
21-Jun-2021	1.32	1.34	1.61	1.35	1.34	1.56
22-Jun-2021	1.29	1.30	1.57	1.27	1.31	1.54
23-Jun-2021	1.22	1.29	1.51	1.31	1.35	1.58
24-Jun-2021	1.36	1.36	1.61	1.39	1.43	1.65
25-Jun-2021	1.41	1.40	1.64	1.39	1.46	1.66
26-Jun-2021	NS	NS	NS	NS	NS	NS
27-Jun-2021	NS	NS	NS	NS	NS	NS
28-Jun-2021	1.30	1.32	1.55	1.26	1.34	1.53
29-Jun-2021	1.32	1.40	1.61	1.35	1.45	1.68
30-Jun-2021	1.31	1.45	1.70	1.34	1.51	1.71
<b>Total number of measurements taken, A:</b>		22			22	
<b>Chlorine Standard for Monitoring Location (mg/L):</b>		0.50			0.50	
<b>Number of measurements meeting standard, B:</b>		22			22	
<b>Compliance with Chlorine Standard, C= B/A X 100%:</b>		100%			100%	

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

Comments:

Compiled By: H. Demchenko

Authorized By: C. Diduck

Report Date: 2-Jul-21





**CITY OF WINNIPEG**  
**WATER AND WASTE DEPARTMENT**  
**WATER SERVICES**

Water System Code: **252.00**  
 Licence Number: **PWS-09-412-02**

**WATER TREATMENT PLANT UV REPORT**

Report Period: **June 2021**

Report Created: **Friday, July 02, 2021**

Date	Transmittance (%)				UVR_D100A			UVR_D200A			UVR_D300A			UVR_D400A			UVR_D500A			UVR_D600A		
	Branch 1		Branch 2		UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²			UV Dose [mJ/cm]²		
	Avg.	Min.	Avg.	Min.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.
01/06/2021	93.4	91.9	96.2	95.3	16.7	23.2	21.2	OL	OL	OL	16.9	23.0	21.1	OL	OL	OL	OL	OL	OL	16.5	22.1	21.1
02/06/2021	93.5	87.5	96.0	94.8	0.0	101.2	21.6	OL	OL	OL	0.0	91.0	21.4	0.0	71.6	21.3	0.0	55.5	21.1	0.0	36.7	21.3
03/06/2021	93.3	91.9	95.8	94.7	16.0	28.6	21.2	OL	OL	OL	16.9	25.1	21.4	15.9	24.3	21.3	16.6	25.1	21.2	OL	OL	OL
04/06/2021	92.8	91.5	95.7	94.5	15.7	22.8	21.3	OL	OL	OL	16.8	25.3	21.4	17.5	28.4	21.3	17.4	22.7	21.2	OL	OL	OL
05/06/2021	92.3	90.7	95.7	94.8	16.0	23.7	21.3	OL	OL	OL	16.8	23.5	21.4	17.5	22.3	21.3	17.5	22.3	21.2	OL	OL	OL
06/06/2021	92.3	90.7	95.5	95.0	16.7	27.7	21.3	OL	OL	OL	16.8	24.4	21.4	17.5	22.5	21.3	17.7	22.8	21.4	OL	OL	OL
07/06/2021	91.8	90.2	95.1	94.4	16.8	31.1	21.3	OL	OL	OL	17.0	24.4	21.3	0.0	35.9	21.3	16.1	29.8	21.2	OL	OL	OL
08/06/2021	91.6	89.8	94.9	94.4	16.5	29.2	21.2	OL	OL	OL	17.1	22.0	21.1	OL	OL	OL	18.3	21.9	21.1	OL	OL	OL
09/06/2021	91.3	89.6	94.9	94.3	17.0	28.9	21.3	0.0	106.0	53.2	0.0	31.5	21.1	15.5	74.4	21.3	18.2	21.8	21.1	OL	OL	OL
10/06/2021	92.4	89.7	94.4	57.5	16.3	30.5	21.3	OL	OL	OL	OL	OL	OL	16.0	22.4	21.2	18.2	21.9	21.2	OL	OL	OL
11/06/2021	94.3	94.0	93.0	91.1	16.9	31.3	21.3	OL	OL	OL	OL	OL	OL	18.1	22.6	21.2	18.3	21.9	21.2	OL	OL	OL
12/06/2021	94.3	93.9	92.8	92.2	16.8	31.4	21.3	OL	OL	OL	OL	OL	OL	18.1	22.3	21.2	18.2	22.6	21.2	OL	OL	OL
13/06/2021	94.3	93.8	92.8	91.8	16.9	31.1	21.3	OL	OL	OL	OL	OL	OL	18.3	22.2	21.3	18.3	21.9	21.2	OL	OL	OL
14/06/2021	94.2	93.6	92.7	92.3	16.7	29.9	21.3	OL	OL	OL	16.2	87.7	21.4	0.0	29.9	21.3	18.3	22.9	21.1	OL	OL	OL
15/06/2021	94.0	93.4	92.5	91.3	16.3	29.1	21.2	OL	OL	OL	20.6	22.0	21.2	OL	OL	OL	18.3	21.8	21.1	OL	OL	OL
16/06/2021	94.0	91.8	92.5	91.5	16.6	25.5	21.2	OL	OL	OL	20.7	21.8	21.2	OL	OL	OL	18.4	22.7	21.1	OL	OL	OL
17/06/2021	94.0	93.6	92.5	92.0	16.6	28.2	21.2	OL	OL	OL	17.4	21.9	21.2	OL	OL	OL	18.3	22.6	21.1	OL	OL	OL
18/06/2021	94.0	93.6	92.5	92.0	16.6	28.4	21.2	OL	OL	OL	0.0	32.2	21.1	OL	OL	OL	18.1	23.5	21.2	17.3	101.5	21.3
19/06/2021	94.0	93.5	92.5	92.0	16.9	23.2	21.1	OL	OL	OL	OL	OL	OL	OL	OL	OL	18.2	23.2	21.3	17.2	21.8	21.1
20/06/2021	94.0	93.5	92.5	91.9	16.9	22.9	21.1	OL	OL	OL	OL	OL	OL	OL	OL	OL	17.9	23.1	21.3	17.2	24.3	21.1
21/06/2021	93.9	93.4	92.5	92.0	0.0	24.5	21.0	20.3	92.9	24.3	OL	OL	OL	0.0	51.5	23.4	17.9	25.0	21.3	17.1	25.1	21.1
22/06/2021	93.1	86.5	92.1	88.4	OL	OL	OL	0.0	100.2	24.2	0.0	89.8	22.8	15.9	88.9	21.2	0.0	32.9	21.4	17.3	22.9	21.1
23/06/2021	90.5	0.0	92.1	91.7	OL	OL	OL	20.3	28.1	23.8	OL	OL	OL	18.1	21.7	21.1	OL	OL	OL	17.1	24.1	21.2
24/06/2021	91.2	0.0	92.1	91.9	OL	OL	OL	19.6	26.8	22.6	OL	OL	OL	17.7	28.8	21.1	OL	OL	OL	17.0	24.4	21.1
25/06/2021	92.4	90.8	92.2	92.1	OL	OL	OL	19.1	25.5	21.9	OL	OL	OL	17.8	22.0	21.2	OL	OL	OL	17.0	23.9	21.1
26/06/2021	92.6	91.0	92.3	92.1	OL	OL	OL	18.7	36.6	22.0	OL	OL	OL	17.7	36.5	21.3	OL	OL	OL	17.1	26.0	21.1
27/06/2021	92.9	91.5	92.4	92.2	OL	OL	OL	19.6	26.1	22.3	OL	OL	OL	17.9	22.1	21.3	OL	OL	OL	17.2	23.7	21.1
28/06/2021	92.9	91.7	92.4	91.9	16.2	64.2	21.2	0.0	49.6	22.5	OL	OL	OL	17.7	22.8	21.3	OL	OL	OL	17.2	22.1	21.1
29/06/2021	92.9	91.5	92.6	92.1	17.4	23.8	21.2	OL	OL	OL	16.7	84.1	21.5	17.8	22.5	21.4	0.0	14.9	9.4	17.2	22.3	21.1
30/06/2021	88.0	84.1	92.9	92.4	17.3	23.9	21.2	OL	OL	OL	17.3	23.6	21.4	17.7	22.4	21.4	OL	OL	OL	17.1	21.9	21.1

**Notes:**  
 1. UV Comparative Dose: 18.1 mJ/cm²  
 2. OL - Off Line

Submitted By (Print):     D.Merredew    

Signature:     Original signed by D.Merredew