



Water and Waste Department • Service des eaux et des déchets

Environmental Standards Division • Division des Normes Environnementales

September 7, 2018

Derek Clarke
Office of Drinking Water
Manitoba Sustainable Development
Box 6000
Gimli, Manitoba R0C 1B0

Our File: 040-18-18-55-00

Dear Mr. Clarke:

**RE: AUGUST 2018 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 August 2018. There are no corrective action reports to be submitted for August 2018.

The August on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. Please note that the maximum turbidities for Filter 3 were greater than 0.3 NTU on August 3 and 23; the elevated turbidities occurred for a short period of time which did not exceed 12 consecutive hours. The turbidity results for the effluent from the filters met the licence requirements.

The August 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 August 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
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

August 2018 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
1/08/2018	2.52	0.06	0.10	0.09	0.14	0.09	0.14	0.04	0.09	0.03	0.04	0.03	0.07	0.03	0.06	0.01	0.01
2/08/2018	2.62	0.05	0.11	0.09	0.14	0.08	0.14	0.05	0.07	0.03	0.05	0.04	0.06	0.03	0.06	0.01	0.01
3/08/2018	2.63	0.06	0.09	0.08	0.13	0.08	0.47	0.05	0.09	0.02	0.05	0.04	0.07	0.03	0.05	0.01	0.01
4/08/2018	3.91	0.06	0.11	0.10	0.14	0.08	0.11	0.04	0.09	0.02	0.05	0.04	0.10	0.02	0.05	0.01	0.01
5/08/2018	2.28	0.05	0.09	0.09	0.15	0.09	0.14	0.04	0.07	0.03	0.05	0.04	0.09	0.02	0.05	0.01	0.01
6/08/2018	2.29	0.05	0.10	0.08	0.15	0.08	0.14	0.05	0.11	0.03	0.06	0.06	0.07	0.03	0.05	0.01	0.01
7/08/2018	2.32	0.06	0.09	0.09	0.13	0.08	0.12	0.04	0.09	0.03	0.06	0.06	0.08	0.03	0.05	0.01	0.02
8/08/2018	2.07	0.05	0.10	0.09	0.13	0.07	0.10	0.04	0.09	0.03	0.08	0.07	0.12	0.04	0.08	0.01	0.01
9/08/2018	1.88	0.06	0.11	0.10	0.16	0.10	0.15	0.05	0.08	0.05	0.08	0.09	0.16	0.06	0.12	0.01	0.06
10/08/2018	2.23	0.05	0.09	0.08	0.15	0.08	0.13	0.04	0.07	0.03	0.07	0.09	0.10	0.04	0.08	0.01	0.04
11/08/2018	2.16	0.07	0.10	0.09	0.15	0.09	0.16	0.04	0.09	0.04	0.08	0.10	0.19	0.07	0.11	0.01	0.05
12/08/2018	2.11	0.06	0.11	0.11	0.14	0.08	0.14	0.04	0.09	0.04	0.09	0.10	0.18	0.06	0.11	0.01	0.02
13/08/2018	2.16	0.06	0.13	0.10	0.17	0.11	0.15	0.04	0.11	0.05	0.07	0.10	0.19	0.06	0.12	0.01	0.05
14/08/2018	2.31	0.07	0.14	0.10	0.17	0.09	0.15	0.05	0.17	0.04	0.09	0.12	0.17	0.06	0.10	0.01	0.07
15/08/2018	2.90	0.06	0.08	0.09	0.14	0.07	0.13	0.03	0.08	0.03	0.06	0.11	0.16	0.05	0.07	0.01	0.02
16/08/2018	2.69	0.07	0.11	0.10	0.12	0.07	0.11	0.03	0.11	0.03	0.07	0.11	0.17	0.04	0.08	0.01	0.01
17/08/2018	2.51	0.06	0.10	0.11	0.14	0.06	0.10	0.02	0.05	0.02	0.04	0.11	0.16	0.03	0.07	0.01	0.01
18/08/2018	2.27	0.05	0.08	0.12	0.18	0.08	0.09	0.02	0.05	0.02	0.04	0.12	0.18	0.03	0.09	0.01	0.01
19/08/2018	2.44	0.05	0.09	0.13	0.18	0.07	0.11	0.02	0.06	0.02	0.05	0.15	0.15	0.04	0.05	0.01	0.02
20/08/2018	2.34	0.06	0.07	0.09	0.17	0.06	0.11	0.02	0.05	0.02	0.05	0.08	0.19	0.04	0.08	0.01	0.02
21/08/2018	2.19	0.05	0.09	0.05	0.08	0.07	0.08	0.02	0.10	0.02	0.04	0.05	0.11	0.04	0.09	0.01	0.01
22/08/2018	2.15	0.05	0.09	0.05	0.09	0.07	0.11	0.02	0.04	0.03	0.05	0.06	0.08	0.04	0.09	0.01	0.01
23/08/2018	2.15	0.05	0.09	0.05	0.08	0.07	0.39	0.02	0.05	0.03	0.05	0.08	0.10	0.04	0.06	0.01	0.01
24/08/2018	2.12	0.07	0.09	0.05	0.10	0.07	0.12	0.03	0.07	0.03	0.06	0.08	0.11	0.05	0.07	0.01	0.01
25/08/2018	2.15	0.08	0.11	0.07	0.09	0.08	0.13	0.03	0.15	0.03	0.08	0.09	0.14	0.05	0.09	0.01	0.01
26/08/2018	2.19	0.08	0.13	0.07	0.10	0.09	0.14	0.03	0.06	0.03	0.05	0.09	0.13	0.04	0.08	0.01	0.01
27/08/2018	1.70	0.08	0.12	0.06	0.11	0.09	0.14	0.03	0.06	0.03	0.05	0.09	0.16	0.04	0.08	0.01	0.01
28/08/2018	2.31	0.07	0.10	0.05	0.10	0.08	0.13	0.03	0.07	0.02	0.05	0.13	0.14	0.05	0.06	0.01	0.01
29/08/2018	2.54	0.09	0.11	0.06	0.08	0.08	0.13	0.03	0.08	0.02	0.05	0.12	0.18	0.05	0.08	0.01	0.01
30/08/2018	2.71	0.07	0.11	0.05	0.09	0.09	0.12	0.02	0.07	0.03	0.04	0.08	0.16	0.05	0.08	0.01	0.01
31/08/2018	2.67	0.07	0.11	0.05	0.09	0.08	0.14	0.03	0.12	0.03	0.06	0.04	0.05	0.06	0.07	0.01	0.01

Total Number of Measurements Taken, A:	16454	14536	16593	15197	17350	15923	15843	16412
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:	16454	14536	16587	15197	17350	15923	15843	16412
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	100.000%	99.964%	100.000%	100.000%	100.000%	100.000%	100.000%

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2018\08-August

Submitted By (Print): D. Merredew

Signature: Original Signed by D. Merredew



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENVIRONMENTAL STANDARDS DIVISION

WATER TREATMENT PLANT TURBIDITY GRAB MONITORING REPORT

Water System Code: 252.00		Turbidity (NTU)																	
Licence No. PWS-09-412-01																			
Date	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-Aug-2018	1.84	2.38	OL	OL	0.12	0.12	0.12	0.09	0.11	0.05	0.08	0.02	0.08	0.06	0.09	0.02	0.09	<0.02	
02-Aug-2018	2.44	2.59	0.10	0.04	0.10	0.10	0.14	0.11	0.11	0.05	0.07	0.02	0.07	0.05	0.08	0.02	OL	OL	
03-Aug-2018	2.20	2.97	0.10	0.04	0.10	0.09	0.10	0.07	0.13	0.06	OL	OL	0.11	0.05	0.11	0.02	0.11	<0.02	
04-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
06-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
07-Aug-2018	2.26	2.51	0.10	0.04	0.10	0.09	0.10	0.07	0.11	0.06	OL	OL	0.11	0.08	0.09	0.03	0.10	0.03	
08-Aug-2018	1.94	2.07	0.10	0.05	0.10	0.10	0.10	0.08	0.09	0.04	0.09	0.02	OL	OL	0.12	0.05	0.11	<0.02	
09-Aug-2018	2.38	1.73	0.12	0.07	0.19	0.13	0.14	0.10	0.17	0.07	0.16	0.04	0.20	0.10	0.22	0.05	0.19	0.03	
10-Aug-2018	2.51	2.17	0.10	0.04	0.09	0.09	0.13	0.11	0.12	0.04	0.13	0.03	0.14	0.10	0.13	0.04	OL	OL	
11-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
13-Aug-2018	2.48	2.53	OL	OL	0.16	0.15	0.15	0.12	0.14	0.07	0.14	0.06	0.14	0.13	0.13	0.07	0.12	0.05	
14-Aug-2018	2.42	2.59	0.12	0.06	0.12	0.11	0.18	0.12	0.14	0.06	0.12	0.05	0.13	0.14	0.14	0.06	OL	OL	
15-Aug-2018	2.72	1.39	0.09	0.06	0.09	0.11	0.10	0.08	0.12	0.05	OL	OL	0.11	0.13	0.10	0.04	0.09	<0.02	
16-Aug-2018	2.82	2.80	0.09	0.06	0.09	0.11	0.09	0.07	0.08	0.03	0.08	0.02	0.14	0.16	0.10	0.04	0.09	<0.02	
17-Aug-2018	2.72	2.65	0.09	0.06	0.08	0.11	0.10	0.07	0.09	0.02	0.08	<0.02	0.09	0.12	0.14	0.06	0.10	<0.02	
18-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
19-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
20-Aug-2018	2.60	2.29	0.09	0.05	0.11	0.06	0.10	0.07	0.13	0.04	OL	OL	0.12	0.07	0.11	0.04	0.12	<0.02	
21-Aug-2018	2.37	2.22	0.10	0.06	0.09	0.05	0.09	0.07	0.09	0.02	0.08	0.02	0.09	0.07	OL	OL	0.10	<0.02	
22-Aug-2018	2.36	1.97	0.08	0.05	OL	OL	0.10	0.08	0.09	0.02	0.08	0.02	0.09	0.08	0.09	0.04	0.11	<0.02	
23-Aug-2018	2.48	2.32	0.08	0.05	0.09	0.06	OL	OL	0.09	0.02	0.09	0.03	0.09	0.08	0.10	0.04	0.10	<0.02	
24-Aug-2018	2.26	2.33	0.09	0.05	0.08	0.06	0.09	0.07	0.11	0.04	OL	OL	0.09	0.10	0.10	0.05	0.09	<0.02	
25-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
26-Aug-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
27-Aug-2018	2.39	1.36	OL	OL	0.11	0.08	0.10	0.09	0.10	0.04	0.07	0.02	0.08	0.12	0.07	0.04	0.07	<0.02	
28-Aug-2018	1.97	1.88	0.08	0.07	0.09	0.06	OL	OL	0.10	0.04	0.07	0.02	0.09	0.14	0.08	0.04	0.07	<0.02	
29-Aug-2018	2.20	2.59	0.09	0.07	0.09	0.06	0.11	0.09	OL	OL	0.08	<0.02	OL	OL	0.09	<0.02	0.09	<0.02	
30-Aug-2018	2.19	2.52	OL	OL	0.10	0.07	0.09	0.09	0.08	0.03	0.08	0.02	0.07	0.05	0.07	0.05	0.07	<0.02	
31-Aug-2018	2.11	2.76	0.09	0.07	0.09	0.06	0.13	0.13	0.09	0.04	0.08	0.03	0.08	0.05	0.08	0.06	OL	OL	
Total number of measurements taken, A:			18		21		20		21		17		20		21		18		
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:			18		21		20		21		17		20		21		18		
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

Comments:

Report Compiled By: H.Demchenko

Authorized in Sample Manager By: C.Diduck

Date Authorized: 6-Sep-18



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 September 2018

Report Period: August 2018

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/08/2018	1.31	1.12	1.35	1.27
02/08/2018	1.34	1.17	1.31	1.21
03/08/2018	1.34	1.15	1.33	1.23
04/08/2018	1.19	0.93	1.29	1.20
05/08/2018	1.42	1.03	1.29	1.05
06/08/2018	1.55	1.24	1.31	1.24
07/08/2018	1.47	1.11	1.29	1.22
08/08/2018	1.31	1.08	1.30	1.19
09/08/2018	1.30	1.00	1.27	1.13
10/08/2018	1.38	1.28	1.28	1.20
11/08/2018	1.28	1.18	1.26	1.17
12/08/2018	1.34	1.22	1.31	1.23
13/08/2018	1.31	1.15	1.27	1.18
14/08/2018	1.26	1.11	1.22	1.11
15/08/2018	1.29	1.19	1.30	1.20
16/08/2018	1.30	1.09	1.31	1.25
17/08/2018	1.38	1.26	1.29	1.21
18/08/2018	1.35	1.20	1.28	1.13
19/08/2018	1.37	1.22	1.27	1.14
20/08/2018	1.37	1.25	1.28	1.19
21/08/2018	1.32	1.22	1.29	1.19
22/08/2018	1.30	1.12	1.26	1.09
23/08/2018	1.50	1.34	1.38	1.28
24/08/2018	1.47	1.34	1.39	1.28
25/08/2018	1.46	1.35	1.39	1.29
26/08/2018	1.44	1.33	1.37	1.28
27/08/2018	1.42	1.23	1.38	1.21
28/08/2018	1.33	1.17	1.35	1.23
29/08/2018	1.39	1.29	1.32	1.26
30/08/2018	1.45	1.34	1.40	1.27
31/08/2018	1.31	1.19	1.34	1.23

Total Number of Measurements, A:	21601	21601
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21601	21601
 COMPLIANCE, C = B/A X 100%:	 100.00	 100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2018\08-August

Submitted By (Print): D. Merredew

Signature: Original Signed by D. Merredew



CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
 ENVIRONMENTAL STANDARDS DIVISION

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-Aug-2018	1.22	1.41	1.59	1.32	1.34	1.54
02-Aug-2018	1.52	1.43	1.61	1.38	1.30	1.55
03-Aug-2018	1.37	1.36	1.61	1.36	1.26	1.54
04-Aug-2018	NA	NA	NA	NA	NA	NA
05-Aug-2018	NA	NA	NA	NA	NA	NA
06-Aug-2018	NA	NA	NA	NA	NA	NA
07-Aug-2018	1.46	1.43	1.53	1.30	1.30	1.48
08-Aug-2018	1.34	1.40	1.55	1.31	1.33	1.61
09-Aug-2018	1.33	1.32	1.49	1.28	1.26	1.49
10-Aug-2018	1.38	1.41	1.67	1.30	1.32	1.52
11-Aug-2018	NA	NA	NA	NA	NA	NA
12-Aug-2018	NA	NA	NA	NA	NA	NA
13-Aug-2018	1.23	1.30	1.53	1.24	1.34	1.58
14-Aug-2018	1.30	1.37	1.61	1.23	1.29	1.47
15-Aug-2018	1.26	1.41	1.61	1.29	1.38	1.57
16-Aug-2018	1.29	1.50	1.73	1.33	1.48	1.62
17-Aug-2018	1.43	1.50	1.71	1.39	1.42	1.56
18-Aug-2018	NA	NA	NA	NA	NA	NA
19-Aug-2018	NA	NA	NA	NA	NA	NA
20-Aug-2018	1.36	1.41	1.67	1.28	1.31	1.47
21-Aug-2018	1.36	1.39	1.59	1.26	1.33	1.56
22-Aug-2018	1.19	1.26	1.42	1.20	1.28	1.42
23-Aug-2018	1.44	1.47	1.60	1.33	1.41	1.66
24-Aug-2018	1.52	1.54	1.75	1.41	1.41	1.66
25-Aug-2018	NA	NA	NA	NA	NA	NA
26-Aug-2018	NA	NA	NA	NA	NA	NA
27-Aug-2018	1.49	1.58	1.75	1.41	1.36	1.67
28-Aug-2018	1.19	1.36	1.57	1.34	1.49	1.69
29-Aug-2018	1.43	1.57	1.81	1.40	1.54	1.66
30-Aug-2018	1.44	1.61	1.82	1.44	1.65	1.78
31-Aug-2018	1.35	1.46	1.69	1.42	1.46	1.63
Total number of measurements taken, A:		22			22	
Chlorine Standard for Monitoring Location (mg/L):		0.50			0.50	
Number of measurements meeting standard, B:		22			22	
Compliance with Chlorine Standard, C= B/A X 100%:		100%			100%	

NS: No Sample NA: Not Analyzed OL: Off-Line

Comments: Report Compiled By: H.Demchenko

Authorized in Sample Manager By: C.Diduck

Date Authorized: 6-Sep-18



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: **August 2018**

Report Created: **Saturday, September 01, 2018**

Date	Transmittance %	UVR-D100A Water Volume [ML]				UVR-D200A Water Volume [ML]				UVR-D300A Water Volume [ML]				UVR-D400A Water Volume [ML]				UVR-D500A Water Volume [ML]				UVR-D600A Water Volume [ML]				Total Water Volume [ML]				% Volume Treated To Dose
		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	
01/08/2018	95.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.04	65.04	0.00	0.00	84.96	84.96	0.00	0.00	0.00	0.00	0.00	0.00	79.98	79.98	0.00	0.00	229.97	229.97	100.00
02/08/2018	95.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.01	65.01	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	80.03	80.03	0.00	0.00	230.04	230.04	100.00
03/08/2018	95.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.99	64.99	0.00	0.00	85.02	85.02	0.00	0.00	0.00	0.00	0.00	0.00	79.98	79.98	0.00	0.00	229.99	229.99	100.00
04/08/2018	95.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.01	65.01	0.00	0.00	85.00	85.00	0.00	0.00	0.00	0.00	0.00	0.00	79.99	79.99	0.00	0.00	229.99	229.99	100.00
05/08/2018	95.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.99	64.99	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	80.01	80.01	0.00	0.00	229.99	229.99	100.00
06/08/2018	95.24	0.00	0.00	41.04	41.04	0.00	0.00	0.00	0.00	0.00	0.00	28.50	28.50	0.00	0.00	80.45	80.45	0.00	0.00	0.00	0.00	0.00	0.00	80.02	80.02	0.00	0.00	229.99	229.99	100.00
07/08/2018	95.16	0.00	0.00	69.90	69.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.69	72.69	0.00	0.00	0.00	0.00	0.00	0.00	79.45	79.45	0.00	0.00	222.04	222.04	100.00
08/08/2018	95.10	0.00	0.00	70.62	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.41	73.41	0.00	0.00	0.00	0.00	0.00	0.00	80.27	80.27	0.00	0.00	224.30	224.30	100.00
09/08/2018	94.72	0.00	0.00	72.54	72.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.56	76.56	0.00	0.00	0.00	0.00	0.00	0.00	74.90	74.90	0.00	0.00	224.00	224.00	100.00
10/08/2018	95.14	0.00	0.00	75.71	75.71	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.00	81.49	81.49	0.00	0.00	0.00	0.00	0.00	0.05	72.68	72.74	0.00	0.05	229.99	230.04	99.98
11/08/2018	95.04	0.00	0.00	75.87	75.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.04	82.04	0.00	0.00	0.00	0.00	0.00	0.05	73.39	73.44	0.00	0.05	231.30	231.35	99.98
12/08/2018	94.91	0.00	0.00	76.11	76.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.57	82.57	0.00	0.00	0.00	0.00	0.00	0.00	76.29	76.29	0.00	0.00	234.98	234.98	100.00
13/08/2018	94.83	0.00	0.00	76.06	76.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.86	82.86	0.00	0.00	0.00	0.00	0.00	0.00	76.09	76.09	0.00	0.00	235.01	235.01	100.00
14/08/2018	94.82	0.00	0.00	76.28	76.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.13	83.13	0.00	0.00	0.00	0.00	0.00	0.00	76.28	76.28	0.00	0.00	235.69	235.69	100.00
15/08/2018	95.30	0.00	0.00	76.73	76.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.22	83.22	0.00	0.00	0.00	0.00	0.00	0.00	77.10	77.10	0.00	0.00	237.05	237.05	100.00
16/08/2018	95.33	0.00	0.00	66.53	66.53	0.00	0.00	13.76	13.76	0.00	0.00	0.00	0.00	0.00	0.00	78.80	78.80	0.00	0.00	11.47	11.47	0.00	0.00	72.41	72.41	0.00	0.00	242.96	242.96	100.00
17/08/2018	95.47	0.00	0.00	70.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.98	69.98	0.00	0.00	39.14	39.14	0.00	0.00	67.60	67.60	0.00	0.00	246.72	246.72	100.00
18/08/2018	95.44	0.00	0.00	70.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.01	70.01	0.00	0.00	36.77	36.77	0.00	0.00	63.62	63.62	0.00	0.00	240.40	240.40	100.00
19/08/2018	95.48	0.00	0.00	68.20	68.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	30.87	30.87	0.00	0.00	55.48	55.48	0.00	0.00	224.56	224.56	100.00
20/08/2018	95.51	0.00	0.00	67.65	67.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.00	70.00	0.00	0.00	29.03	29.03	0.00	0.00	53.32	53.32	0.00	0.00	220.00	220.00	100.00
21/08/2018	95.52	0.00	0.00	64.62	64.62	0.00	0.00	0.00	0.00	0.00	0.00	21.55	21.55	0.00	0.00	63.96	63.96	0.00	0.00	47.82	47.82	0.00	0.04	22.00	22.03	0.00	0.04	219.95	219.99	99.98
22/08/2018	95.56	0.00	0.00	63.08	63.08	0.00	0.00	0.00	0.00	0.00	0.00	37.45	37.45	0.00	0.00	60.34	60.34	0.00	0.00	61.64	61.64	0.00	0.00	0.00	0.00	0.00	0.00	222.51	222.51	100.00
23/08/2018	95.53	0.00	0.00	67.66	67.66	0.00	0.00	0.00	0.00	0.00	0.00	41.34	41.34	0.00	0.00	66.34	66.34	0.00	0.00	69.33	69.33	0.00	0.00	0.00	0.00	0.00	0.00	244.67	244.67	100.00
24/08/2018	95.41	0.00	0.00	69.60	69.60	0.00	0.00	0.00	0.00	0.00	0.00	43.63	43.63	0.00	0.00	68.71	68.71	0.00	0.00	72.01	72.01	0.00	0.00	2.41	2.41	0.00	0.00	256.36	256.36	100.00
25/08/2018	95.39	0.00	0.00	70.02	70.02	0.00	0.00	0.00	0.00	0.00	0.00	44.53	44.53	0.00	0.00	70.03	70.03	0.00	0.00	75.43	75.43	0.00	0.00	0.00	0.00	0.00	0.00	260.01	260.01	100.00
26/08/2018	95.39	0.00	0.00	69.42	69.42	0.00	0.00	0.00	0.00	0.00	0.00	42.75	42.75	0.00	0.00	67.95	67.95	0.00	0.00	72.52	72.52	0.00	0.00	0.00	0.00	0.00	0.00	252.64	252.64	100.00
27/08/2018	95.49	0.00	0.00	66.87	66.87	0.00	0.00	13.06	13.06	0.00	0.00	48.72	48.72	0.00	0.00	70.92	70.92	0.00	0.24	31.94	32.18	0.03	0.03	10.01	10.07	0.03	0.27	241.52	241.82	99.87
28/08/2018	95.63	0.00	0.00	67.17	67.17	0.00	0.04	18.32	18.37	0.00	0.00	28.47	28.47	0.00	0.00	81.87	81.87	0.00	0.00	0.10	0.10	0.00	0.00	35.49	35.49	0.00	0.04	231.42	231.47	99.98
29/08/2018	95.61	0.00	0.00	71.09	71.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.31	77.31	0.00	0.00	0.00	0.00	0.00	0.00	69.80	69.80	0.00	0.00	218.20	218.20	100.00
30/08/2018	95.63	0.00	0.00	68.21	68.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.35	74.35	0.00	0.00	42.84	42.84	0.00	0.00	24.58	24.59	0.00	0.00	209.99	210.00	100.00
31/08/2018	95.62	0.00	0.00	68.38	68.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.25	74.25	0.00	0.00	67.37	67.37	0.00	0.00	0.00	0.00	0.00	0.00	209.99	209.99	100.00
Total [ML]:		0.00	0.00	1799.35	1799.35	0.00	0.04	45.14	45.18	0.00	0.00	662.07	662.07	0.00	0.00	2358.23	2358.23	0.00	0.24	688.27	688.52	0.03	0.17	1643.19	1643.39	0.03	0.46	7196.24	7196.74	

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.01 %
 To Dose: 99.99 %

Submitted By (Print): D. Merredew

Signature: Original Signed by D. Merredew