



**Water and Waste Department • Service des eaux et des déchets**

*Environmental Standards Division • Division des Normes Environnementales*

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May 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: APRIL 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 April 2018. There are no corrective action reports to be submitted for April 2018.

The April 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 effluent from the filters met the licence requirements.

The April 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 April 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  
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**

April 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
1/04/2018	0.64	0.07	0.09	0.05	0.14	0.06	0.15	0.05	0.09	0.02	0.09	0.05	0.09	0.03	0.11	0.07	0.16
2/04/2018	0.68	0.06	0.16	0.03	0.07	0.05	0.16	0.04	0.11	0.02	0.04	0.08	0.15	0.05	0.08	0.09	0.18
3/04/2018	0.70	0.07	0.16	OL	OL	0.05	0.15	0.04	0.11	0.03	0.08	0.08	0.17	0.05	0.12	0.11	0.12
4/04/2018	0.73	0.07	0.17	OL	OL	0.07	0.12	0.05	0.07	0.03	0.08	0.07	0.16	0.05	0.13	0.10	0.18
5/04/2018	0.77	0.09	0.13	OL	OL	0.06	0.14	0.05	0.11	0.02	0.08	0.08	0.11	0.04	0.07	0.09	0.18
6/04/2018	0.76	0.07	0.16	OL	OL	0.05	0.14	0.04	0.12	0.02	0.05	0.07	0.14	0.06	0.11	0.09	0.12
7/04/2018	0.79	0.07	0.15	OL	OL	0.06	0.08	0.04	0.06	0.02	0.08	0.08	0.16	0.05	0.12	0.11	0.18
8/04/2018	0.82	0.09	0.11	OL	OL	0.06	0.13	0.05	0.11	0.02	0.08	0.08	0.11	0.05	0.14	0.10	0.17
9/04/2018	0.80	0.09	0.16	OL	OL	0.06	0.16	0.05	0.11	0.02	0.04	0.09	0.21	0.06	0.08	0.09	0.18
10/04/2018	0.79	0.07	0.22	0.03	0.15	0.06	0.08	0.04	0.13	0.03	0.08	0.07	0.15	0.05	0.12	0.11	0.13
11/04/2018	0.80	0.09	0.12	0.05	0.12	0.06	0.16	0.05	0.09	0.02	0.07	0.06	0.15	0.04	0.12	0.08	0.17
12/04/2018	0.92	0.02	0.19	0.04	0.10	0.01	0.15	0.00	0.09	0.01	0.06	0.05	0.12	0.03	0.09	0.05	0.11
13/04/2018	0.86	0.04	0.08	0.05	0.10	0.04	0.08	0.02	0.05	0.02	0.05	0.05	0.11	0.05	0.11	0.01	0.01
14/04/2018	0.83	0.05	0.07	0.06	0.08	0.04	0.10	0.02	0.05	0.02	0.06	0.08	0.08	0.05	0.07	0.01	0.02
15/04/2018	0.82	0.05	0.11	0.06	0.12	0.05	0.13	0.03	0.08	0.03	0.04	0.09	0.15	0.08	0.12	0.01	0.01
16/04/2018	0.81	0.05	0.07	0.06	0.13	0.07	0.12	0.03	0.05	0.02	0.07	0.10	0.19	0.07	0.13	0.01	0.03
17/04/2018	0.80	0.06	0.12	0.07	0.10	0.04	0.15	0.02	0.10	0.02	0.09	0.13	0.15	0.06	0.09	0.00	0.04
18/04/2018	0.80	0.02	0.06	0.03	0.08	0.03	0.09	0.01	0.04	0.01	0.03	0.07	0.17	0.05	0.12	0.01	0.01
19/04/2018	0.80	0.02	0.05	0.03	0.07	0.04	0.06	0.00	0.01	0.01	0.04	0.05	0.11	0.02	0.06	0.01	0.01
20/04/2018	0.79	0.02	0.03	0.03	0.05	0.04	0.09	0.01	0.04	0.01	0.04	0.05	0.11	0.02	0.06	0.00	0.01
21/04/2018	0.78	0.02	0.05	0.04	0.06	0.03	0.10	0.01	0.04	0.01	0.02	0.07	0.09	0.02	0.03	0.00	0.01
22/04/2018	0.76	0.01	0.05	0.02	0.07	0.04	0.05	0.00	0.03	0.01	0.05	0.05	0.11	0.02	0.06	0.01	0.01
23/04/2018	0.75	0.02	0.03	0.02	0.04	0.04	0.09	0.01	0.02	0.01	0.05	0.05	0.11	0.02	0.07	0.00	0.01
24/04/2018	0.75	0.02	0.04	0.03	0.06	0.03	0.09	0.00	0.03	0.01	0.04	0.07	0.09	0.02	0.03	0.00	0.01
25/04/2018	0.79	0.01	0.05	0.02	0.06	0.03	0.05	0.00	0.04	0.01	0.03	0.06	0.12	0.03	0.07	0.01	0.01
26/04/2018	0.76	0.02	0.04	0.02	0.04	0.05	0.09	0.00	0.01	0.01	0.04	0.04	0.12	0.02	0.06	0.01	0.03
27/04/2018	0.75	0.02	0.05	0.04	0.06	0.03	0.08	0.00	0.03	0.01	0.04	0.06	0.10	0.02	0.04	0.00	0.01
28/04/2018	0.77	0.01	0.03	0.02	0.05	0.03	0.07	0.00	0.02	0.01	0.02	0.06	0.11	0.03	0.06	0.01	0.01
29/04/2018	0.81	0.01	0.02	0.02	0.05	0.04	0.05	0.00	0.00	0.01	0.03	0.05	0.10	0.01	0.05	0.01	0.01
30/04/2018	0.84	OL	OL	0.03	0.04	0.04	0.06	0.00	0.01	0.00	0.01	0.05	0.07	0.01	0.03	0.01	0.01

Total Number of Measurements Taken, A:	13632	8062	14113	10313	14910	13414	13479	14612
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:	13632	8062	14113	10313	14910	13414	13479	14612
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%
OL Off-line								

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2018\04-April

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-Apr-2018	0.42	0.62	0.09	0.06	0.12	0.09	0.12	0.07	0.11	0.05	OL	OL	0.11	0.08	OL	OL	0.13	0.16	
02-Apr-2018	0.50	0.65	0.12	0.07	0.09	0.07	OL	OL	0.12	0.07	0.09	0.02	0.11	0.09	0.12	0.04	0.10	0.12	
03-Apr-2018	0.50	0.67	OL	OL	OL	OL	0.09	0.06	0.09	0.05	0.09	0.03	0.13	0.11	0.11	0.05	0.11	0.13	
04-Apr-2018	0.49	0.71	0.09	0.07	OL	OL	0.10	0.07	0.09	0.05	0.10	0.03	OL	OL	0.15	0.09	0.10	0.14	
05-Apr-2018	0.52	0.74	0.10	0.07	OL	OL	0.11	0.08	0.10	0.06	0.09	<0.02	0.10	0.09	0.09	0.04	OL	OL	
06-Apr-2018	NA	NA	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
07-Apr-2018	NA	NA	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
08-Apr-2018	0.53	0.78	0.08	0.08	OL	OL	0.11	0.07	0.09	0.06	0.08	<0.02	0.10	0.09	0.09	0.04	OL	OL	
09-Apr-2018	0.58	0.76	0.10	0.10	OL	OL	OL	OL	0.12	0.09	0.08	0.02	0.10	0.10	0.08	0.05	0.08	0.13	
10-Apr-2018	0.60	0.77	0.08	0.08	0.12	0.10	0.09	0.07	0.08	0.06	0.08	<0.02	0.13	0.14	0.10	0.06	0.09	0.13	
11-Apr-2018	0.59	0.77	0.08	0.10	0.08	0.07	0.10	0.07	0.09	0.06	OL	OL	0.08	0.09	OL	OL	0.10	0.14	
12-Apr-2018	0.64	0.81	0.08	0.10	0.08	0.06	OL	OL	OL	OL	0.06	<0.02	0.08	0.10	0.07	0.04	0.07	0.12	
13-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
14-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
15-Apr-2018	0.58	0.81	0.08	0.04	OL	OL	0.09	0.05	0.09	0.03	0.09	0.03	0.12	0.13	0.11	0.07	0.09	<0.02	
16-Apr-2018	0.68	0.78	0.09	0.04	0.09	0.07	0.11	0.07	0.10	0.04	OL	OL	0.09	0.11	0.08	0.06	0.09	<0.02	
17-Apr-2018	0.71	0.80	0.11	0.06	0.11	0.08	OL	OL	OL	OL	0.09	0.02	0.10	0.14	0.09	0.07	0.09	<0.02	
18-Apr-2018	0.68	0.79	OL	OL	0.09	0.07	0.07	0.04	0.07	<0.02	0.06	<0.02	0.08	0.14	0.07	0.06	0.06	<0.02	
19-Apr-2018	0.60	0.77	0.07	<0.02	0.06	0.04	0.09	0.05	0.08	<0.02	0.08	<0.02	OL	OL	OL	OL	0.07	<0.02	
20-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
21-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
22-Apr-2018	0.57	0.75	0.07	<0.02	OL	OL	0.07	0.05	0.08	<0.02	0.07	<0.02	0.12	0.12	0.08	0.03	0.06	<0.02	
23-Apr-2018	0.74	0.75	0.08	<0.02	0.09	0.04	0.11	0.06	0.13	<0.02	OL	OL	0.11	0.07	OL	OL	0.11	<0.02	
24-Apr-2018	0.60	0.72	0.07	<0.02	0.07	0.05	OL	OL	OL	OL	0.07	<0.02	0.08	0.08	0.08	0.02	0.08	<0.02	
25-Apr-2018	0.55	0.80	OL	OL	OL	OL	0.08	0.05	0.09	<0.02	0.08	<0.02	0.10	0.10	0.09	0.02	0.08	<0.02	
26-Apr-2018	0.68	0.73	0.07	<0.02	0.08	0.04	0.09	0.04	0.07	<0.02	0.09	0.02	OL	OL	OL	OL	0.08	<0.02	
27-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
28-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
29-Apr-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
30-Apr-2018	0.61	0.83	OL	OL	0.06	0.03	0.07	0.04	0.07	<0.02	OL	OL	0.07	0.06	0.07	<0.02	0.07	<0.02	
<b>Total number of measurements taken, A:</b>			17		13		16		18		16		18		16		19		
<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>			17		13		16		18		16		18		16		19		
<b>Compliance with Turbidity Standard, C= B/A X 100%:</b>			100%		100%		100%		100%		100%		100%		100%		100%		

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

**Comments:**

Filter 2 was offline from April 3-9, 2018 for scheduled maintenance.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 7-May-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 May 2018

Report Period: April 2018

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/04/2018	1.03	0.96	1.07	0.98
02/04/2018	1.09	1.07	1.14	1.08
03/04/2018	1.08	1.08	1.09	0.75
04/04/2018	1.04	0.94	1.04	0.93
05/04/2018	1.04	0.90	1.08	0.96
06/04/2018	1.21	1.10	1.14	1.04
07/04/2018	1.22	1.14	1.05	0.98
08/04/2018	1.17	1.08	1.07	0.99
09/04/2018	0.98	0.84	1.03	0.91
10/04/2018	0.89	0.82	0.93	0.87
11/04/2018	0.95	0.86	0.95	0.84
12/04/2018	0.91	0.68	0.89	0.83
13/04/2018	1.15	1.00	1.17	0.97
14/04/2018	1.17	1.06	1.07	0.93
15/04/2018	1.12	1.04	0.97	0.93
16/04/2018	1.07	0.98	1.02	0.93
17/04/2018	1.03	0.95	1.03	0.91
18/04/2018	1.06	0.94	1.07	0.89
19/04/2018	1.07	0.95	1.21	1.08
20/04/2018	0.99	0.90	1.10	0.97
21/04/2018	1.15	1.07	1.19	1.13
22/04/2018	1.17	1.08	1.17	1.12
23/04/2018	1.13	1.06	1.06	0.98
24/04/2018	1.06	0.97	0.98	0.92
25/04/2018	1.09	0.97	0.99	0.94
26/04/2018	1.09	0.71	1.01	0.82
27/04/2018	1.05	0.95	1.01	0.96
28/04/2018	1.09	1.00	1.02	0.95
29/04/2018	1.09	0.95	1.01	0.93
30/04/2018	1.07	0.99	1.00	0.87

Total Number of Measurements, A:	20897	20897
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20897	20897
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2018\04-April

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		Deacon Booster Pumping Station Branch 1			Deacon Booster Pumping Station Branch 2		
Licence No. PWS-09-412-01							
Date	Free Chlorine (mg/L)		Total Chlorine (mg/L)	Free Chlorine (mg/L)		Total Chlorine (mg/L)	
	Analyser	Grab	Grab	Analyser	Grab	Grab	
01-Apr-2018	1.06	1.04	1.22	1.08	1.15	1.30	
02-Apr-2018	1.08	1.14	1.26	1.14	1.22	1.36	
03-Apr-2018	1.06	1.05	1.23	1.16	1.15	1.37	
04-Apr-2018	1.01	1.03	1.20	1.04	1.06	1.24	
05-Apr-2018	0.95	1.05	1.20	1.01	1.06	1.25	
06-Apr-2018	NA	NA	NA	NA	NA	NA	
07-Apr-2018	NA	NA	NA	NA	NA	NA	
08-Apr-2018	1.23	1.18	1.34	1.03	1.12	1.31	
09-Apr-2018	0.92	1.01	1.12	1.03	1.10	1.26	
10-Apr-2018	0.87	0.95	1.07	0.92	0.98	1.19	
11-Apr-2018	0.97	1.02	1.21	0.97	1.03	1.23	
12-Apr-2018	0.93	1.02	1.20	0.94	1.12	1.27	
13-Apr-2018	NA	NA	NA	NA	NA	NA	
14-Apr-2018	NA	NA	NA	NA	NA	NA	
15-Apr-2018	1.15	1.13	1.29	0.97	1.06	1.25	
16-Apr-2018	1.06	1.11	1.29	1.04	1.08	1.26	
17-Apr-2018	1.05	1.11	1.26	1.08	1.06	1.29	
18-Apr-2018	1.21	1.21	1.41	1.17	1.17	1.34	
19-Apr-2018	1.11	1.14	1.34	1.24	1.28	1.44	
20-Apr-2018	NA	NA	NA	NA	NA	NA	
21-Apr-2018	NA	NA	NA	NA	NA	NA	
22-Apr-2018	1.16	1.23	1.42	1.15	1.21	1.45	
23-Apr-2018	1.14	1.23	1.37	1.02	1.09	1.30	
24-Apr-2018	1.04	1.10	1.29	0.96	1.03	1.20	
25-Apr-2018	1.05	1.06	1.27	0.99	1.01	1.16	
26-Apr-2018	1.09	1.17	1.35	1.04	1.07	1.27	
27-Apr-2018	NA	NA	NA	NA	NA	NA	
28-Apr-2018	NA	NA	NA	NA	NA	NA	
29-Apr-2018	NA	NA	NA	NA	NA	NA	
30-Apr-2018	1.08	1.15	1.31	0.99	1.10	1.23	
<b>Total number of measurements taken, A:</b>		21			21		
<b>Chlorine Standard for Monitoring Location (mg/L):</b>		0.50			0.50		
<b>Number of measurements meeting standard, B:</b>		21			21		
<b>Compliance with Chlorine Standard, C= B/A X 100%:</b>		100%			100%		

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

Comments:

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 7-May-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: April 2018

Report Created: Tuesday, May 01, 2018

Date	Transmittance %	UVR-D100A				UVR-D200A				UVR-D300A				UVR-D400A				UVR-D500A				UVR-D600A				Total				% Volume Treated To Dose			
		Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]				Water Volume [ML]							
		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		Untreated	Below	To
01/04/2018	95.02	0.00	0.00	0.00	0.00	0.00	0.00	68.37	68.37	0.00	0.00	0.00	0.00	0.00	0.00	49.32	49.32	0.00	0.00	0.00	0.00	0.00	0.00	54.30	54.30	0.00	0.00	171.98	171.98	100.00			
02/04/2018	94.96	0.00	0.00	0.00	0.00	0.00	0.00	59.99	59.99	0.00	0.00	0.00	0.00	0.00	0.00	53.11	53.11	0.00	0.00	0.00	0.00	0.00	0.00	58.88	58.88	0.00	0.00	171.99	171.99	100.00			
03/04/2018	94.93	0.08	0.08	5.64	5.81	0.00	0.00	54.19	54.19	0.02	0.02	1.66	1.70	0.12	0.12	50.69	50.92	0.08	0.43	1.27	1.77	0.11	0.11	55.80	56.02	0.41	0.75	169.25	170.41	99.32			
04/04/2018	94.88	0.00	0.00	0.00	0.00	0.00	0.00	60.01	60.01	0.00	0.00	0.00	0.00	0.00	0.00	53.74	53.74	0.00	0.00	0.00	0.00	0.00	0.00	59.63	59.63	0.00	0.00	173.37	173.37	100.00			
05/04/2018	94.93	0.00	0.00	15.72	15.72	0.05	0.51	28.19	28.74	0.00	0.00	14.55	14.55	0.00	0.00	53.17	53.17	0.00	0.00	24.20	24.20	0.00	0.00	41.47	41.47	0.05	0.51	177.31	177.86	99.69			
06/04/2018	94.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.33	49.33	0.00	0.00	53.90	53.90	0.00	0.00	76.75	76.75	0.00	0.00	0.00	0.00	0.00	0.00	179.99	179.99	100.00			
07/04/2018	94.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.24	49.24	0.00	0.00	57.10	57.10	0.00	0.00	64.99	64.99	0.00	0.00	0.00	0.00	0.00	0.00	171.33	171.33	100.00			
08/04/2018	94.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.73	47.73	0.00	0.00	54.26	54.26	0.00	0.00	65.02	65.02	0.00	0.00	0.00	0.00	0.00	0.00	167.01	167.01	100.00			
09/04/2018	94.93	0.00	0.00	44.74	44.74	0.00	0.00	0.00	0.00	0.00	0.13	4.47	4.60	0.00	0.00	54.37	54.37	0.00	1.98	48.73	50.71	0.00	0.03	14.69	14.71	0.00	2.14	166.99	169.13	98.74			
10/04/2018	94.92	0.00	0.00	65.86	65.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.15	49.15	0.00	0.00	52.72	52.72	0.00	0.00	0.00	0.00	0.00	0.00	167.73	167.73	100.00			
11/04/2018	94.89	0.00	0.00	54.34	54.34	0.00	0.00	19.74	19.74	0.00	0.00	0.00	0.00	0.00	0.00	53.40	53.40	0.00	0.00	59.62	59.62	0.00	0.00	0.00	0.00	0.00	0.00	187.09	187.09	100.00			
12/04/2018	93.57	0.00	0.00	0.00	0.00	0.00	0.00	28.21	28.21	0.00	0.00	0.00	0.00	0.04	0.04	23.94	24.01	0.00	0.04	23.84	23.89	0.00	0.00	0.00	0.00	0.04	0.08	75.99	76.11	99.84			
13/04/2018	94.36	0.00	0.00	0.39	0.39	0.23	0.23	31.58	32.04	0.00	0.02	48.57	48.59	0.00	0.00	62.77	62.77	0.16	0.16	56.31	56.63	0.00	0.00	0.00	0.00	0.39	0.41	199.61	200.42	99.60			
14/04/2018	94.29	0.00	0.00	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	56.98	56.98	0.00	0.00	65.68	65.68	0.00	0.00	34.73	34.73	0.00	0.06	50.24	50.30	0.00	0.06	207.76	207.82	99.97			
15/04/2018	94.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.06	57.06	0.00	0.00	65.55	65.55	0.00	0.00	0.00	0.00	0.00	0.00	85.37	85.37	0.00	0.00	207.98	207.98	100.00			
16/04/2018	94.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.61	54.61	0.00	0.00	60.42	60.42	0.00	0.00	46.26	46.26	0.00	0.06	45.78	45.84	0.00	0.06	207.07	207.13	99.97			
17/04/2018	94.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.21	57.21	0.00	0.00	64.87	64.87	0.00	0.37	87.52	87.89	0.00	0.00	0.00	0.00	0.00	0.37	209.60	209.97	99.82			
18/04/2018	94.77	0.00	0.00	0.00	0.00	0.00	0.00	36.10	36.10	0.00	0.04	55.20	55.24	0.00	0.00	75.62	75.62	0.00	0.46	6.34	6.80	0.00	0.00	38.06	38.06	0.00	0.49	211.34	211.83	99.77			
19/04/2018	94.72	0.00	0.00	0.07	0.07	0.00	0.00	73.45	73.45	0.00	0.00	50.23	50.23	0.00	0.00	75.02	75.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.77	198.77	100.00			
20/04/2018	94.63	0.00	0.00	0.00	0.00	0.11	0.11	43.03	43.25	0.00	0.00	51.30	51.30	0.00	0.05	69.08	69.12	0.03	0.03	27.89	27.94	0.00	0.00	0.00	0.00	0.14	0.18	191.29	191.61	99.83			
21/04/2018	94.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.61	55.61	0.00	0.00	64.45	64.45	0.00	0.00	69.98	69.98	0.00	0.00	0.00	0.00	0.00	0.00	190.05	190.05	100.00			
22/04/2018	94.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.17	55.17	0.00	0.00	64.33	64.33	0.00	0.00	70.02	70.02	0.00	0.00	0.00	0.00	0.00	0.00	189.52	189.52	100.00			
23/04/2018	94.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.75	50.75	0.00	0.00	57.17	57.17	0.00	0.00	25.87	25.87	0.00	0.05	54.18	54.24	0.00	0.05	187.98	188.03	99.97			
24/04/2018	94.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.94	48.94	0.00	0.00	54.06	54.06	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	187.98	187.98	100.00			
25/04/2018	94.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.96	48.96	0.00	0.00	54.05	54.05	0.00	0.00	0.00	0.00	0.00	0.00	84.99	84.99	0.00	0.00	188.00	188.00	100.00			
26/04/2018	95.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	48.09	48.12	0.02	0.03	57.05	57.10	0.00	0.00	24.77	24.77	0.01	0.01	51.38	51.39	0.03	0.07	181.28	181.38	99.95			
27/04/2018	95.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.23	51.23	0.00	0.00	67.17	67.17	0.00	0.00	69.57	69.57	0.00	0.00	0.00	0.00	0.00	0.00	187.97	187.97	100.00			
28/04/2018	95.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.03	50.03	0.00	0.00	68.25	68.25	0.00	0.00	69.66	69.66	0.00	0.00	0.00	0.00	0.00	0.00	187.94	187.94	100.00			
29/04/2018	95.42	0.00	0.00	0.54	0.54	0.01	0.01	0.00	0.01	0.00	0.00	49.93	49.93	0.00	0.00	68.26	68.26	0.21	0.21	67.21	67.62	0.00	0.00	0.14	0.14	0.21	0.21	186.08	186.50	99.77			
30/04/2018	95.89	0.00	0.00	33.32	33.32	0.00	0.00	0.00	0.00	0.00	0.00	46.40	46.40	0.00	0.00	70.37	70.37	0.10	0.10	34.45	34.65	0.08	0.08	2.82	2.98	0.18	0.18	187.36	187.72	99.81			
<b>Total [ML]:</b>		0.08	0.08	220.74	220.91	0.39	0.85	502.87	504.11	0.02	0.24	1103.25	1103.51	0.18	0.23	1770.31	1770.72	0.57	3.77	1107.73	1112.07	0.19	0.39	782.71	783.30	1.44	5.57	5487.62	5494.63				

Water Volume [%]:  
 Untreated: 0.03 %  
 Below Dose 0.10 %  
 To Dose 99.87 %

Submitted By: D.Merredew

Signature: Original Signed by D.Merredew \_\_\_\_\_