



Water and Waste Department • Service des eaux et des déchets

Environmental Standards Division • Division des Normes Environnementales

June 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: MAY 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 May 2018. There are no corrective action reports to be submitted for May 2018.

The May 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 May 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 May 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

May 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
1/05/2018	0.91	OL	OL	0.01	0.06	0.02	0.07	0.00	0.11	0.00	0.02	0.04	0.08	0.01	0.03	0.00	0.01
2/05/2018	0.87	OL	OL	0.02	0.04	0.04	0.06	0.00	0.02	0.00	0.02	0.06	0.08	0.01	0.03	0.01	0.01
3/05/2018	0.91	OL	OL	0.02	0.06	0.04	0.06	0.00	0.01	0.00	0.01	0.06	0.09	0.01	0.03	0.01	0.01
4/05/2018	0.90	OL	OI	0.02	0.04	0.04	0.08	0.00	0.01	0.00	0.02	0.06	0.08	0.01	0.03	0.01	0.01
5/05/2018	0.86	OL	OL	0.03	0.06	0.05	0.07	0.01	0.03	0.01	0.03	0.06	0.09	0.02	0.04	0.01	0.01
6/05/2018	0.84	OL	OL	0.03	0.08	0.05	0.09	0.01	0.04	0.01	0.02	0.06	0.08	0.02	0.04	0.01	0.01
7/05/2018	1.34	0.01	0.24	0.03	0.05	0.06	0.10	0.01	0.03	0.00	0.02	0.06	0.08	0.02	0.04	0.01	0.01
8/05/2018	1.02	0.04	0.05	0.04	0.07	0.07	0.12	0.02	0.05	0.01	0.05	0.07	0.09	0.03	0.04	0.01	0.01
9/05/2018	1.03	0.05	0.08	0.05	0.11	0.08	0.11	0.03	0.07	0.01	0.03	0.07	0.12	0.03	0.06	0.01	0.01
10/05/2018	1.07	0.04	0.10	0.05	0.08	0.10	0.16	0.03	0.06	0.01	0.05	0.06	0.12	0.03	0.07	0.01	0.02
11/05/2018	1.04	0.03	0.06	0.05	0.11	0.07	0.17	0.03	0.08	0.01	0.09	0.07	0.09	0.02	0.04	0.00	0.02
12/05/2018	1.04	0.04	0.19	0.04	0.13	0.07	0.20	0.02	0.08	0.01	0.06	0.05	0.12	0.02	0.08	0.01	0.01
13/05/2018	1.08	0.03	0.06	0.03	0.09	0.06	0.09	0.01	0.07	0.01	0.02	0.05	0.13	0.02	0.09	0.01	0.01
14/05/2018	1.12	0.04	0.08	0.04	0.09	OL	OL	0.02	0.05	0.01	0.04	0.06	0.10	0.02	0.06	0.01	0.01
15/05/2018	1.13	0.03	0.08	0.04	0.07	OL	OL	0.02	0.05	0.01	0.04	0.06	0.11	0.02	0.06	0.01	0.01
16/05/2018	1.35	0.04	0.11	0.05	0.10	OL	OL	0.03	0.07	0.02	0.06	0.06	0.13	0.03	0.08	0.01	0.03
17/05/2018	1.20	0.04	0.13	0.05	0.10	OL	OL	0.04	0.10	0.02	0.11	0.08	0.17	0.03	0.06	0.01	0.10
18/05/2018	1.34	0.04	0.10	0.04	0.10	OL	OL	0.03	0.07	0.01	0.06	0.07	0.13	0.03	0.08	0.01	0.01
19/05/2018	1.59	0.04	0.07	0.03	0.06	OL	OL	0.02	0.05	0.01	0.03	0.05	0.09	0.02	0.05	0.01	0.01
20/05/2018	0.96	0.04	0.07	0.04	0.08	OL	OL	0.02	0.07	0.01	0.03	0.05	0.09	0.02	0.05	0.01	0.01
21/05/2018	1.23	0.03	0.07	0.03	0.07	OL	OL	0.02	0.06	0.01	0.02	0.05	0.09	0.02	0.04	0.01	0.01
22/05/2018	1.27	0.03	0.07	0.03	0.06	OL	OL	0.03	0.05	0.01	0.02	0.05	0.08	0.02	0.04	0.01	0.01
23/05/2018	2.80	0.04	0.07	0.04	0.06	OL	OL	0.03	0.06	0.01	0.03	0.05	0.09	0.01	0.05	0.01	0.01
24/05/2018	3.23	0.04	0.08	0.03	0.08	0.00	0.24	0.03	0.06	0.00	0.06	0.03	0.07	0.01	0.03	0.01	0.01
25/05/2018	2.96	0.05	0.06	0.03	0.06	0.08	0.15	0.03	0.07	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.01
26/05/2018	4.98	0.05	0.09	0.04	0.06	0.09	0.14	0.03	0.07	0.00	0.02	0.01	0.05	0.02	0.05	0.01	0.01
27/05/2018	4.46	0.03	0.09	0.03	0.06	0.09	0.14	0.03	0.05	0.00	0.01	0.01	0.04	0.01	0.06	0.01	0.01
28/05/2018	1.25	0.06	0.10	0.03	0.06	0.08	0.24	0.04	0.08	0.00	0.03	0.02	0.03	0.01	0.05	0.01	0.01
29/05/2018	1.21	0.06	0.11	0.03	0.08	0.09	0.12	0.04	0.07	0.00	0.03	0.02	0.05	0.01	0.03	0.01	0.01
30/05/2018	1.17	0.08	0.10	0.03	0.05	0.08	0.14	0.04	0.08	0.01	0.02	0.03	0.06	0.02	0.05	0.01	0.01
31/05/2018	1.13	0.07	0.11	0.04	0.06	0.08	0.15	0.05	0.07	0.00	0.01	0.03	0.06	0.01	0.04	0.01	0.01

Total Number of Measurements Taken, A:	12422	13853	10129	13277	16376	15252	15134	16120
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:	12422	13853	10129	13277	16376	15252	15134	16120
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\05-May

Submitted By (Print): D.Minor

Signature: Original signed by D.Minor



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-May-2018	0.58	0.79	OL	OL	0.07	0.04	0.06	0.04	0.07	<0.02	0.06	<0.02	0.07	0.07	0.07	<0.02	0.07	<0.02	
02-May-2018	0.58	0.84	OL	OL	0.06	0.03	0.07	0.04	0.06	<0.02	0.08	<0.02	0.07	0.07	OL	OL	0.07	<0.02	
03-May-2018	0.65	0.92	OL	OL	0.06	0.03	0.06	0.05	0.06	0.04	0.07	<0.02	0.06	0.07	OL	OL	0.06	<0.02	
04-May-2018	0.62	0.84	OL	OL	0.06	0.03	0.07	0.05	0.06	<0.02	0.09	<0.02	0.07	0.07	0.10	<0.02	0.07	<0.02	
05-May-2018	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
06-May-2018	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
07-May-2018	0.60	0.79	OL	OL	0.07	0.03	0.08	0.07	0.07	<0.02	OL	OL	0.07	0.07	0.07	<0.02	0.07	<0.02	
08-May-2018	0.57	0.91	0.08	0.03	0.09	0.05	0.08	0.08	OL	OL	0.07	<0.02	0.08	0.07	0.08	0.02	0.07	<0.02	
09-May-2018	0.70	0.96	0.12	0.05	0.10	0.06	0.10	0.10	0.10	0.03	0.10	<0.02	OL	OL	0.12	0.04	0.10	<0.02	
10-May-2018	0.68	1.03	OL	OL	0.10	0.06	0.11	0.10	0.11	0.04	0.09	0.02	0.09	0.08	0.09	0.02	0.11	0.02	
11-May-2018	0.70	1.06	0.09	0.03	0.10	0.07	OL	OL	0.11	0.05	OL	OL	0.09	0.08	0.08	0.02	0.08	<0.02	
12-May-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
13-May-2018	NA	NA	NA	NA	NA	NA	0.07	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
14-May-2018	0.75	1.12	0.15	0.04	0.12	0.05	OL	OL	0.12	0.03	0.09	<0.02	0.11	0.07	OL	OL	0.09	<0.02	
15-May-2018	1.07	0.97	OL	OL	0.08	0.05	OL	OL	0.10	0.03	0.09	<0.02	0.09	0.07	0.14	<0.02	0.11	<0.02	
16-May-2018	1.70	2.61	0.10	0.02	0.08	0.05	OL	OL	0.08	0.03	0.09	<0.02	0.08	0.07	0.10	<0.02	OL	OL	
17-May-2018	0.75	1.21	0.09	0.03	0.09	0.06	OL	OL	0.12	0.06	OL	OL	0.11	0.09	0.10	0.03	0.09	<0.02	
18-May-2018	0.77	1.16	0.09	0.04	0.14	0.08	OL	OL	OL	OL	0.09	<0.02	0.12	0.09	0.10	0.03	0.09	<0.02	
19-May-2018	NA	NA	NA	NA	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
20-May-2018	NA	NA	NA	NA	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
21-May-2018	NA	NA	NA	NA	NA	NA	OL	OL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
22-May-2018	0.95	1.22	OL	OL	0.10	0.04	OL	OL	0.12	0.03	0.09	<0.02	0.09	0.06	0.09	<0.02	0.09	<0.02	
23-May-2018	0.95	1.31	0.07	0.02	0.08	0.04	OL	OL	0.09	0.03	0.08	<0.02	0.08	0.06	0.08	<0.02	OL	OL	
24-May-2018	0.90	2.89	0.08	0.03	0.08	0.04	OL	OL	0.10	0.04	OL	OL	0.09	0.06	0.09	<0.02	0.09	<0.02	
25-May-2018	0.86	2.30	0.07	0.03	0.07	0.04	0.10	0.11	OL	OL	0.08	<0.02	0.08	0.02	0.08	<0.02	0.06	<0.02	
26-May-2018	NA	NA	NA	NA	NA	NA	0.07	0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
27-May-2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
28-May-2018	0.99	1.21	0.08	0.04	0.07	0.04	0.07	0.09	0.09	0.05	0.08	<0.02	0.10	0.03	0.07	<0.02	OL	OL	
29-May-2018	0.89	1.17	0.08	0.06	0.08	0.04	0.08	0.09	0.10	0.07	OL	OL	0.08	0.04	0.08	<0.02	0.07	<0.02	
30-May-2018	0.83	1.22	0.09	0.07	0.09	0.04	0.11	0.11	0.11	0.05	0.09	<0.02	OL	OL	0.08	<0.02	0.07	<0.02	
31-May-2018	0.93	1.08	0.09	0.08	0.09	0.04	OL	OL	0.09	0.05	0.09	<0.02	0.09	0.03	0.10	0.02	0.10	<0.02	
Total number of measurements taken, A:			14		22		14		19		17		20		19		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:			14		22		14		19		17		20		19		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

Comments:

Filter 1 was offline for scheduled maintenance May 1-6, 2018.
 Filter 3 was offline for scheduled maintenance May 14-23, 2019.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 6-Jun-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 June 2018

Report Period: May 2018

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/05/2018	1.35	1.01	1.33	0.94
02/05/2018	1.26	1.09	1.23	1.07
03/05/2018	1.15	0.98	1.17	1.10
04/05/2018	1.09	0.95	1.11	1.03
05/05/2018	1.00	0.88	1.03	0.94
06/05/2018	1.07	1.00	1.07	0.99
07/05/2018	1.13	0.88	1.09	0.91
08/05/2018	1.19	1.04	1.26	1.01
09/05/2018	1.02	0.81	1.17	0.93
10/05/2018	1.05	0.89	1.03	0.90
11/05/2018	1.04	0.92	1.06	0.99
12/05/2018	1.04	0.94	1.09	1.03
13/05/2018	1.13	0.98	1.14	1.06
14/05/2018	1.05	0.94	1.00	0.91
15/05/2018	1.02	0.94	0.99	0.89
16/05/2018	1.08	1.00	1.03	0.97
17/05/2018	1.02	0.76	0.99	0.63
18/05/2018	1.09	0.88	1.08	0.95
19/05/2018	1.20	1.00	1.20	1.09
20/05/2018	1.13	1.03	1.09	0.99
21/05/2018	1.14	1.05	1.11	1.05
22/05/2018	1.11	1.04	1.12	1.04
23/05/2018	1.03	0.98	1.01	0.93
24/05/2018	1.01	0.84	1.00	0.90
25/05/2018	1.13	1.05	1.18	1.11
26/05/2018	1.02	0.80	1.10	0.99
27/05/2018	0.93	0.82	1.07	0.96
28/05/2018	0.92	0.82	1.14	1.01
29/05/2018	1.07	0.89	1.09	0.96
30/05/2018	1.02	0.92	1.01	0.91
31/05/2018	0.89	0.67	0.88	0.75

Total Number of Measurements, A:	21299	21296
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	21299	21296
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2018\05-May

Submitted By (Print): D. Minor

Signature: Original signed by D.Minor



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	Grab
01-May-2018	1.63	1.81	2.00	1.58	1.75	1.90
02-May-2018	1.13	1.21	1.33	1.10	1.16	1.32
03-May-2018	1.18	1.26	1.42	1.16	1.20	1.36
04-May-2018	1.14	1.23	1.38	1.15	1.24	1.36
05-May-2018	NA	NA	NA	NA	NA	NA
06-May-2018	NA	NA	NA	NA	NA	NA
07-May-2018	1.10	1.13	1.33	1.14	1.24	1.38
08-May-2018	1.22	1.27	1.46	1.32	1.35	1.52
09-May-2018	1.02	1.07	1.24	1.21	1.24	1.44
10-May-2018	1.02	1.14	1.25	1.04	1.09	1.25
11-May-2018	1.04	1.14	1.32	1.05	1.11	1.29
12-May-2018	NA	NA	NA	NA	NA	NA
13-May-2018	NA	NA	NA	NA	NA	NA
14-May-2018	1.07	1.13	1.29	1.01	1.11	1.30
15-May-2018	1.00	1.08	1.23	1.00	1.03	1.20
16-May-2018	1.08	1.12	1.32	1.05	1.11	1.24
17-May-2018	1.08	1.16	1.34	1.02	1.09	1.27
18-May-2018	1.13	1.18	1.35	1.07	1.09	1.24
19-May-2018	NA	NA	NA	NA	NA	NA
20-May-2018	NA	NA	NA	NA	NA	NA
21-May-2018	NA	NA	NA	NA	NA	NA
22-May-2018	1.16	1.37	1.48	1.18	1.18	1.37
23-May-2018	1.05	1.18	1.32	1.04	1.09	1.30
24-May-2018	1.01	1.11	1.29	0.93	1.02	1.18
25-May-2018	1.13	1.22	1.34	1.20	1.15	1.35
26-May-2018	NA	NA	NA	NA	NA	NA
27-May-2018	NA	NA	NA	NA	NA	NA
28-May-2018	0.92	0.85	1.10	1.07	1.06	1.26
29-May-2018	0.97	1.00	1.15	1.13	1.15	1.34
30-May-2018	1.07	1.06	1.26	1.04	1.04	1.25
31-May-2018	0.76	0.87	1.02	0.80	0.81	1.02
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

Approved in LIMS By: C.Diduck

Date Approved: 6-Jun-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: **May 2018**

Report Created: **Friday, June 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	Total	
01/05/2018	94.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	30.54	30.56	0.00	0.00	35.70	35.70	0.00	0.00	39.20	39.20	0.00	0.00	0.00	0.00	0.01	0.01	105.44	105.46	99.98					
02/05/2018	94.48	0.10	0.10	1.26	1.46	0.00	0.00	0.00	0.00	0.00	0.00	57.84	57.84	0.00	0.00	66.26	66.26	0.00	0.00	79.52	79.52	0.00	0.00	0.00	0.00	0.10	0.10	204.89	205.09	99.90					
03/05/2018	94.44	0.00	0.00	0.00	0.00	0.00	0.00	37.79	37.79	0.00	0.00	57.96	57.96	0.00	0.00	33.63	33.63	0.00	0.00	75.03	75.03	0.00	0.00	0.00	0.00	0.00	0.00	204.40	204.40	100.00					
04/05/2018	94.33	0.00	0.05	16.59	16.63	0.00	0.12	30.78	30.90	0.00	0.00	28.08	28.08	0.12	0.15	43.33	43.59	0.00	0.04	44.03	44.07	0.00	0.00	40.56	40.56	0.12	0.36	203.36	203.84	99.77					
05/05/2018	94.05	0.00	0.00	53.69	53.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.41	13.41	0.00	0.00	58.74	58.74	0.00	0.12	78.61	78.72	0.00	0.12	204.45	204.57	99.94					
06/05/2018	94.05	0.00	0.00	69.96	69.96	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	71.94	71.94	0.00	0.00	68.97	68.97	0.00	0.00	210.87	210.87	100.00					
07/05/2018	93.96	0.00	0.00	67.61	67.62	0.00	0.25	0.03	0.28	0.00	0.00	1.22	1.22	0.00	0.00	26.51	26.51	0.00	0.00	71.44	71.44	0.00	0.00	42.85	42.85	0.00	0.26	209.66	209.91	99.88					
08/05/2018	94.11	0.00	0.00	85.30	85.30	0.00	0.09	0.78	0.87	0.00	0.04	37.81	37.85	0.00	1.60	18.50	20.09	0.00	0.00	72.06	72.06	0.00	0.00	0.00	0.00	0.00	1.72	214.44	216.16	99.20					
09/05/2018	94.75	0.00	0.00	26.53	26.53	0.00	0.06	42.93	42.99	0.00	0.00	37.41	37.41	0.00	0.00	28.20	28.20	0.00	0.00	68.58	68.58	0.00	0.00	16.02	16.02	0.00	0.06	219.66	219.72	99.97					
10/05/2018	94.83	0.00	0.00	35.86	35.86	0.00	0.13	0.02	0.15	0.00	0.00	24.69	24.69	0.00	0.12	49.08	49.20	0.00	0.00	28.58	28.58	0.00	0.00	79.98	79.98	0.00	0.25	218.21	218.46	99.89					
11/05/2018	94.94	0.00	0.00	84.96	84.96	0.00	0.00	0.00	0.00	0.00	0.00	59.36	59.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.64	73.64	0.00	0.00	217.96	217.96	100.00					
12/05/2018	95.14	0.00	0.00	83.47	83.47	0.00	0.00	0.00	0.00	0.00	0.00	56.93	56.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	72.06	72.06	0.00	0.00	212.45	212.45	100.00						
13/05/2018	95.33	0.00	0.00	82.90	82.90	0.00	0.00	0.00	0.00	0.00	0.00	55.85	55.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.65	71.65	0.00	0.00	210.41	210.41	100.00						
14/05/2018	95.32	0.00	0.00	85.01	85.01	0.00	0.00	0.00	0.00	0.00	0.00	59.69	59.69	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	219.05	219.05	100.00						
15/05/2018	95.39	0.00	0.00	78.25	78.25	0.00	0.00	0.00	0.00	0.00	0.00	66.56	66.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.20	75.20	0.00	0.00	220.01	220.01	100.00						
16/05/2018	95.06	0.00	0.00	66.52	66.52	0.00	0.00	0.00	0.00	0.00	0.00	76.04	76.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.82	74.82	0.00	0.00	217.38	217.38	100.00						
17/05/2018	94.49	0.04	0.04	58.67	58.75	0.00	0.00	0.00	0.00	0.02	0.02	65.12	65.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.62	62.66	0.07	0.07	186.41	186.55	99.92						
18/05/2018	94.76	0.00	0.00	80.97	80.97	0.00	0.00	0.00	0.00	0.00	0.00	54.72	54.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.03	69.03	0.00	0.00	204.73	204.73	100.00						
19/05/2018	95.59	0.00	0.00	76.15	76.15	0.00	0.00	0.00	0.00	0.00	0.00	51.63	51.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.92	66.92	0.00	0.00	194.71	194.71	100.00						
20/05/2018	95.41	0.00	0.00	74.44	74.44	0.00	0.00	0.00	0.00	0.00	0.00	50.37	50.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.19	65.19	0.00	0.00	189.99	189.99	100.00						
21/05/2018	95.47	0.00	0.00	75.18	75.18	0.00	0.00	0.00	0.00	0.00	0.00	50.76	50.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.70	65.70	0.00	0.00	191.65	191.65	100.00						
22/05/2018	95.52	0.00	0.00	75.91	75.91	0.00	0.00	0.00	0.00	0.00	0.00	57.29	57.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.53	73.53	0.00	0.00	206.73	206.73	100.00						
23/05/2018	94.80	0.00	0.00	71.99	71.99	0.00	0.00	0.00	0.00	0.00	0.00	61.90	61.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.09	79.09	0.00	0.00	212.99	212.99	100.00						
24/05/2018	95.71	0.00	0.00	75.06	75.06	0.00	0.00	0.00	0.00	0.00	0.00	62.69	62.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.28	82.28	0.00	0.00	220.03	220.03	100.00						
25/05/2018	95.50	0.00	0.00	76.10	76.10	0.00	0.00	0.00	0.00	0.00	0.00	65.68	65.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.67	84.67	0.00	0.00	226.45	226.45	100.00						
26/05/2018	95.61	0.00	0.00	57.40	57.40	0.00	0.03	11.19	11.22	0.00	0.00	79.52	79.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.07	78.07	0.00	0.03	226.18	226.21	99.99						
27/05/2018	95.75	0.00	0.00	45.89	45.89	0.00	0.00	46.26	46.26	0.00	0.00	83.93	83.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.00	52.00	0.00	0.00	228.07	228.07	100.00						
28/05/2018	95.41	0.00	0.00	46.42	46.42	0.00	0.00	46.84	46.84	0.00	0.00	84.34	84.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.42	52.42	0.00	0.00	230.02	230.02	100.00						
29/05/2018	94.76	0.00	0.00	53.68	53.68	0.04	0.04	20.34	20.42	0.00	0.00	73.64	73.64	0.00	0.00	0.00	0.00	0.00	0.00	37.35	37.35	0.00	0.00	44.91	44.91	0.04	0.04	229.92	230.01	99.96					
30/05/2018	96.53	0.00	0.00	55.49	55.49	0.00	0.00	0.00	0.00	0.00	0.25	69.21	69.47	0.00	0.00	0.00	0.00	0.00	0.00	64.43	64.43	0.00	0.00	38.22	38.22	0.00	0.25	227.35	227.60	99.89					
31/05/2018	97.23	0.00	0.00	52.37	52.37	0.00	0.00	0.00	0.00	0.00	0.00	65.95	65.95	0.00	0.00	0.00	0.00	0.00	0.00	61.04	61.04	0.00	0.00	36.25	36.25	0.00	0.00	215.62	215.62	100.00					
Total [ML]:		0.14	0.19	1813.63	1813.96	0.04	0.72	236.94	237.70	0.02	0.31	1626.75	1627.09	0.12	1.86	314.62	316.60	0.00	0.04	771.95	771.99	0.02	0.13	1719.60	1719.75	0.34	3.26	6483.49	6487.10						

Water Volume [%]:
 Untreated: 0.01 %
 Below Dose: 0.05 %
 To Dose: 99.94 %

Submitted By: D.Minor

Signature: Original Signed by D.Minor