



Water and Waste Department • Service des eaux et des déchets

Environmental Standards Division • Division des Normes Environnementales

October 6, 2017

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: SEPTEMBER 2017 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 September 2017. There are no corrective action reports to be submitted for September 2017.

The September on-line and grab sampling turbidity reports include results obtained for the Water Treatment Plant raw water and the eight filters. Please note that a brief plant shut-down on September 6 caused the maximum turbidities for Filters 2 and 7 to be greater than 0.3 NTU; 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 September 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 September 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 may 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

September 2017 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
1/09/2017	3.79	0.08	0.16	0.06	0.15	0.04	0.06	0.05	0.13	0.04	0.07	0.06	0.13	0.03	0.11	0.01	0.04
2/09/2017	2.99	0.07	0.15	0.08	0.14	0.04	0.15	0.05	0.13	0.04	0.09	0.05	0.13	0.03	0.04	0.01	0.01
3/09/2017	2.94	0.06	0.14	0.07	0.15	0.04	0.14	0.05	0.07	0.04	0.10	0.06	0.08	0.04	0.12	0.01	0.05
4/09/2017	4.24	0.08	0.10	0.07	0.14	0.04	0.05	0.05	0.14	0.05	0.06	0.06	0.14	0.03	0.12	0.01	0.05
5/09/2017	3.33	0.07	0.16	0.08	0.11	0.04	0.12	0.05	0.14	0.05	0.10	0.06	0.15	0.03	0.05	0.01	0.01
6/09/2017	2.33	0.06	0.26	0.06	0.32	0.03	0.18	0.05	0.23	0.03	0.13	0.05	0.23	0.03	0.31	0.00	0.15
7/09/2017	2.73	0.07	0.17	0.09	0.13	0.04	0.10	0.05	0.13	0.05	0.09	0.06	0.14	0.03	0.07	0.01	0.03
8/09/2017	2.70	0.06	0.13	0.08	0.16	0.04	0.15	0.05	0.09	0.04	0.08	0.05	0.12	0.03	0.04	0.01	0.01
9/09/2017	3.94	0.04	0.06	0.08	0.14	0.04	0.14	0.06	0.15	0.04	0.08	0.06	0.07	0.03	0.10	0.01	0.02
10/09/2017	2.33	0.05	0.14	0.07	0.15	0.03	0.06	0.06	0.11	0.04	0.07	0.05	0.12	0.03	0.08	0.01	0.02
11/09/2017	2.33	0.05	0.12	0.09	0.13	0.05	0.13	0.05	0.12	0.04	0.08	0.01	0.06	0.03	0.10	0.01	0.01
12/09/2017	2.80	0.04	0.11	0.08	0.17	0.04	0.15	0.06	0.12	0.04	0.09	O/L	O/L	0.03	0.07	0.01	0.04
13/09/2017	2.34	0.04	0.14	0.08	0.16	0.04	0.14	0.06	0.08	0.03	0.09	O/L	O/L	0.04	0.10	0.01	0.04
14/09/2017	2.33	0.05	0.07	0.08	0.16	0.04	0.15	0.06	0.13	0.04	0.08	O/L	O/L	0.04	0.11	0.01	0.04
15/09/2017	2.32	0.06	0.14	0.09	0.17	0.04	0.12	0.06	0.12	0.04	0.06	O/L	O/L	0.03	0.09	0.01	0.02
16/09/2017	2.31	0.04	0.13	0.08	0.16	0.02	0.06	0.04	0.11	0.04	0.07	O/L	O/L	0.03	0.09	0.01	0.03
17/09/2017	2.23	0.03	0.10	0.08	0.11	0.02	0.08	0.04	0.09	0.04	0.07	O/L	O/L	0.04	0.10	0.01	0.01
18/09/2017	2.18	0.03	0.08	0.07	0.13	0.01	0.09	0.04	0.10	0.04	0.06	O/L	O/L	0.04	0.06	0.01	0.01
19/09/2017	2.20	0.02	0.09	0.07	0.12	0.01	0.03	0.04	0.06	0.04	0.07	O/L	O/L	0.05	0.08	0.01	0.01
20/09/2017	2.23	0.03	0.05	0.05	0.16	0.00	0.14	0.04	0.09	0.04	0.06	0.05	0.18	0.03	0.13	0.00	0.04
21/09/2017	2.09	0.02	0.14	0.07	0.10	0.01	0.04	0.02	0.12	0.04	0.08	0.05	0.12	0.03	0.12	0.00	0.02
22/09/2017	2.20	0.02	0.13	0.09	0.20	0.01	0.13	0.02	0.12	0.03	0.08	0.06	0.10	0.04	0.06	0.01	0.01
23/09/2017	2.47	0.04	0.07	0.09	0.21	0.03	0.17	0.05	0.09	0.03	0.14	0.10	0.12	0.05	0.15	0.00	0.06
24/09/2017	2.18	0.09	0.16	0.11	0.18	0.06	0.09	0.06	0.20	0.06	0.13	0.07	0.17	0.04	0.16	0.00	0.06
25/09/2017	3.06	0.06	0.22	0.12	0.28	0.07	0.21	0.05	0.20	0.05	0.15	0.07	0.11	0.05	0.07	0.01	0.01
26/09/2017	2.43	0.07	0.10	0.06	0.18	0.05	0.19	0.08	0.11	0.04	0.10	0.10	0.18	0.05	0.10	0.00	0.04
27/09/2017	2.07	0.05	0.20	0.06	0.10	0.06	0.10	0.06	0.19	0.06	0.14	0.06	0.16	0.03	0.14	0.00	0.01
28/09/2017	1.93	0.04	0.14	0.05	0.14	0.03	0.14	0.04	0.13	0.03	0.09	0.08	0.11	0.04	0.06	0.01	0.02
29/09/2017	2.82	0.07	0.09	0.05	0.17	0.03	0.16	0.05	0.09	0.03	0.09	0.10	0.14	0.04	0.10	0.00	0.02
30/09/2017	1.71	0.07	0.21	0.06	0.10	0.06	0.10	0.07	0.17	0.06	0.14	0.08	0.19	0.04	0.17	0.00	0.05

Total Number of Measurements Taken, A:	14898	13321	14831	13967	15631	9877	14139	14779
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:	14898	13320	14831	13967	15631	9877	14138	14779
Compliance with Turbidity Standard, C = B/A X 100%:	100.000%	99.992%	100.000%	100.000%	100.000%	100.000%	99.999%	100.000%

O/L = Off Line

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Turbidity\2017\09-September

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-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
02-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
03-Sep-2017	1.85	2.35	0.08	0.05	0.10	0.08	OL	OL	0.09	0.06	0.07	0.04	0.08	0.07	0.09	0.03	0.08	<0.02	
04-Sep-2017	1.92	2.40	0.08	0.06	0.08	0.07	0.08	0.03	0.10	0.06	0.09	0.04	0.09	0.08	OL	OL	0.07	<0.02	
05-Sep-2017	1.83	2.60	0.13	0.08	0.10	0.08	0.11	0.04	0.10	0.05	0.09	0.04	OL	OL	0.09	0.03	0.09	<0.02	
06-Sep-2017	1.62	2.65	0.10	0.08	OL	OL	0.11	0.05	0.12	0.09	0.09	0.06	0.08	0.08	0.08	0.04	0.09	0.02	
07-Sep-2017	1.96	2.48	0.12	0.08	0.11	0.09	0.12	0.04	OL	OL	0.09	0.04	0.10	0.08	0.08	0.02	0.08	<0.02	
08-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
09-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
10-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11-Sep-2017	1.52	3.04	OL	OL	0.14	0.09	0.12	0.04	0.09	0.06	0.09	0.03	OL	OL	0.11	0.03	0.09	<0.02	
12-Sep-2017	1.63	2.20	OL	OL	0.12	0.10	0.14	0.06	0.11	0.08	0.08	0.04	OL	OL	0.08	0.03	0.09	<0.02	
13-Sep-2017	1.39	2.40	0.09	0.03	0.11	0.09	0.13	0.05	0.08	0.05	OL	OL	OL	OL	0.08	0.03	0.08	<0.02	
14-Sep-2017	1.58	2.34	0.19	0.04	0.13	0.08	0.12	0.03	0.10	0.06	0.07	0.04	OL	OL	0.08	0.03	OL	OL	
15-Sep-2017	1.44	2.26	0.16	0.07	OL	OL	0.14	0.06	0.14	0.10	0.10	0.04	OL	OL	0.11	0.03	0.09	<0.02	
16-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	NS	NS	
17-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	OL	OL	NS	NS	NS	NS	
18-Sep-2017	1.33	2.13	0.09	<0.02	0.09	0.08	0.11	<0.02	0.07	0.08	0.08	0.05	OL	OL	0.07	0.04	0.08	<0.02	
19-Sep-2017	1.37	1.96	0.09	0.02	0.12	0.08	0.13	0.02	0.07	0.04	OL	OL	OL	OL	0.07	0.04	0.09	<0.02	
20-Sep-2017	1.46	2.15	0.10	0.02	OL	OL	0.08	<0.02	0.09	0.06	0.07	0.04	0.08	0.06	0.07	0.04	OL	OL	
21-Sep-2017	1.25	1.98	0.08	0.02	0.07	0.09	0.08	<0.02	OL	OL	0.07	0.03	0.11	0.11	0.07	0.04	0.07	<0.02	
22-Sep-2017	1.49	1.99	OL	OL	0.10	0.10	0.10	<0.02	OL	OL	0.12	0.06	0.12	0.09	0.09	0.04	0.09	<0.02	
23-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
24-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
25-Sep-2017	1.45	2.29	OL	OL	0.20	0.09	0.21	0.09	OL	OL	0.17	0.11	0.09	0.11	0.08	0.05	0.09	<0.02	
26-Sep-2017	1.15	NR	0.19	0.07	OL	OL	OL	OL	0.21	0.09	0.10	0.06	0.09	0.11	0.15	0.06	0.09	0.12	
27-Sep-2017	1.18	2.12	0.18	0.09	0.14	0.07	0.17	0.06	0.11	0.05	0.09	0.03	OL	OL	OL	OL	0.07	0.10	
28-Sep-2017	1.19	1.72	0.12	0.03	0.13	0.06	0.16	0.05	OL	OL	OL	OL	0.08	0.10	0.07	0.03	0.07	0.10	
29-Sep-2017	1.06	NR	0.16	<0.02	OL	OL	OL	OL	0.17	0.07	0.12	0.04	0.09	0.11	0.11	0.04	0.10	0.11	
30-Sep-2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Total number of measurements taken, A:			16		15		17		15		17		11		18		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:			16		15		17		15		17		11		18		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:

There was no result for the raw online analyzer on September 26 and 29 due to maintenance requirements. Filter 6 was offline for maintenance from September 11th to 20th.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 6-Oct-17



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 October 2017**

Report Period: September 2017

Date	BRANCH 1 [mg/L]		BRANCH 2 [mg/L]	
	Average	Minimum	Average	Minimum
01/09/2017	1.19	1.04	1.31	1.20
02/09/2017	1.23	1.11	1.28	1.16
03/09/2017	1.14	0.88	1.18	1.12
04/09/2017	1.26	1.13	1.19	1.12
05/09/2017	1.21	1.08	1.13	1.03
06/09/2017	0.97	0.85	0.89	0.64
07/09/2017	1.07	0.93	1.09	0.96
08/09/2017	1.24	1.13	1.19	1.09
09/09/2017	1.19	1.07	1.16	1.07
10/09/2017	1.16	1.08	1.13	1.05
11/09/2017	1.12	1.01	1.10	1.05
12/09/2017	1.07	1.01	1.06	0.96
13/09/2017	1.09	0.97	1.06	0.97
14/09/2017	1.07	0.97	1.07	0.97
15/09/2017	1.10	0.92	1.19	1.00
16/09/2017	1.10	0.99	1.19	1.09
17/09/2017	1.14	1.02	1.22	1.10
18/09/2017	1.10	0.92	1.14	1.00
19/09/2017	1.18	1.03	1.18	1.07
20/09/2017	1.21	1.11	1.22	1.15
21/09/2017	1.21	1.05	1.15	1.05
22/09/2017	1.23	1.17	1.16	1.11
23/09/2017	1.14	1.07	1.11	1.04
24/09/2017	1.12	1.04	1.10	1.03
25/09/2017	1.06	0.85	1.10	1.03
26/09/2017	1.07	1.00	1.13	1.07
27/09/2017	1.57	0.94	1.65	1.06
28/09/2017	1.13	0.95	1.19	1.08
29/09/2017	1.10	0.90	1.13	0.98
30/09/2017	1.31	1.16	1.20	1.12

Total Number of Measurements, A:	20849	20846
Minimum Free Chlorine Standard:	0.5	0.5
Number of Measurements Meeting Standard, B:	20849	20846
COMPLIANCE, C = B/A X 100%:	100.00	100.00

File Path: N:\Water Treatment Branch\Administration\Reports\Regulatory Submissions\Chlorine\2017\09-September

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	Grab
01-Sep-2017	NS	NS	NS	NS	NS	NS
02-Sep-2017	NS	NS	NS	NS	NS	NS
03-Sep-2017	0.97	1.19	1.41	1.20	1.27	1.41
04-Sep-2017	1.25	1.25	1.48	1.20	1.34	1.44
05-Sep-2017	1.23	1.26	1.57	1.11	1.21	1.37
06-Sep-2017	1.12	1.16	1.36	1.05	1.19	1.33
07-Sep-2017	1.02	1.08	1.27	0.99	1.12	1.29
08-Sep-2017	NS	NS	NS	NS	NS	NS
09-Sep-2017	NS	NS	NS	NS	NS	NS
10-Sep-2017	NS	NS	NS	NS	NS	NS
11-Sep-2017	1.16	1.20	1.33	1.12	1.13	1.27
12-Sep-2017	1.10	1.09	1.31	1.04	1.11	1.21
13-Sep-2017	OL	1.18	1.32	1.08	1.11	1.30
14-Sep-2017	1.05	1.12	1.29	1.07	1.12	1.30
15-Sep-2017	1.14	1.19	1.37	1.20	1.25	1.39
16-Sep-2017	NS	NS	NS	NS	NS	NS
17-Sep-2017	NS	NS	NS	NS	NS	NS
18-Sep-2017	1.08	1.18	1.35	1.15	1.16	1.36
19-Sep-2017	1.27	1.31	1.51	1.24	1.25	1.45
20-Sep-2017	1.13	1.27	1.43	1.21	1.27	1.46
21-Sep-2017	1.29	1.21	1.52	1.17	1.16	1.43
22-Sep-2017	1.22	1.30	1.49	1.15	1.21	1.44
23-Sep-2017	NS	NS	NS	NS	NS	NS
24-Sep-2017	NS	NS	NS	NS	NS	NS
25-Sep-2017	1.05	1.15	1.27	1.25	1.23	1.34
26-Sep-2017	1.05	1.17	1.30	1.15	1.24	1.40
27-Sep-2017	0.99	1.10	1.27	1.12	1.18	1.37
28-Sep-2017	1.09	1.14	1.40	1.19	1.22	1.43
29-Sep-2017	1.01	1.09	1.22	1.07	1.20	1.35
30-Sep-2017	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 NR: No Result OL: Off-Line

Comments:

DBPS Branch I analyzer was offline on September 13 due to maintenance requirements.

Report Compiled By: H.Demchenko

Approved in LIMS By: C.Diduck

Date Approved: 6-Oct-17



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: **September 2017**

Report Created: **Wednesday, October 04, 2017**

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		
01/09/2017	95.17	0.00	0.00	85.05	85.05	0.00	0.00	0.00	0.00	0.00	0.00	57.15	57.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.89	82.89	0.00	0.00	225.08	225.08	100.00	
02/09/2017	95.25	0.00	0.00	84.99	84.99	0.00	0.00	0.00	0.00	0.00	0.00	53.96	53.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.00	80.00	0.00	0.00	218.96	218.96	100.00	
03/09/2017	95.32	0.00	0.00	78.86	78.86	0.00	0.00	0.00	0.00	0.00	0.00	50.34	50.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.04	79.04	0.00	0.00	208.23	208.23	100.00		
04/09/2017	95.27	0.00	0.00	73.42	73.42	0.00	0.00	0.00	0.00	0.00	0.00	47.05	47.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.07	76.07	0.00	0.00	196.54	196.54	100.00		
05/09/2017	95.40	0.00	0.00	72.00	72.00	0.00	0.00	0.00	0.00	0.00	0.00	46.14	46.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.61	74.61	0.00	0.00	192.76	192.76	100.00		
06/09/2017	94.40	0.00	0.00	47.34	47.34	0.00	0.00	0.00	0.00	0.00	0.80	15.31	16.11	0.01	0.01	14.24	14.26	0.00	0.00	0.00	0.00	0.00	0.02	0.02	43.67	43.70	0.02	0.82	120.56	121.41	99.30
07/09/2017	94.97	0.00	0.00	81.10	81.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.45	54.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.07	73.07	0.00	0.00	208.62	208.62	100.00
08/09/2017	95.38	0.00	0.00	83.19	83.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.94	54.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.23	76.23	0.00	0.00	214.37	214.37	100.00
09/09/2017	95.43	0.00	0.00	82.08	82.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.92	52.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.97	79.97	0.00	0.00	214.97	214.97	100.00
10/09/2017	95.32	0.00	0.00	81.99	81.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.98	52.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.99	79.99	0.00	0.00	214.96	214.96	100.00
11/09/2017	95.11	0.00	0.00	82.11	82.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.89	52.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	79.97	79.97	0.00	0.00	214.97	214.97	100.00
12/09/2017	95.27	0.00	0.00	77.38	77.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.77	61.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.66	77.66	0.00	0.00	216.81	216.81	100.00
13/09/2017	94.75	0.00	0.34	43.93	44.28	0.00	0.00	4.83	4.83	0.00	0.00	0.00	0.00	0.00	0.23	72.81	73.04	0.00	0.00	16.93	16.93	0.00	0.00	77.44	77.44	0.00	0.57	215.94	216.51	99.74	
14/09/2017	94.66	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	82.40	82.40	0.00	0.00	53.43	53.43	0.00	0.00	80.89	80.89	0.00	0.00	216.71	216.71	100.00	
15/09/2017	94.03	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	81.03	81.03	0.00	0.00	53.82	53.82	0.00	0.00	81.55	81.55	0.00	0.00	216.41	216.41	100.00	
16/09/2017	94.52	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	77.40	77.40	0.00	0.00	50.55	50.55	0.00	0.00	78.85	78.85	0.00	0.00	206.80	206.80	100.00	
17/09/2017	94.80	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	68.36	68.36	0.00	0.11	41.81	41.92	0.00	0.00	77.16	77.16	0.00	0.11	187.33	187.44	99.94	
18/09/2017	95.02	0.00	0.00	30.06	30.06	0.00	0.00	10.53	10.53	0.00	0.57	0.00	0.57	0.00	0.00	52.99	52.99	0.25	0.25	22.65	23.15	0.00	0.00	71.27	71.27	0.25	0.82	187.50	188.58	99.43	
19/09/2017	95.35	0.00	0.00	72.77	72.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.50	45.50	0.00	0.00	0.00	0.00	0.00	0.00	71.71	71.71	0.00	0.00	189.98	189.98	100.00	
20/09/2017	95.33	0.00	0.00	72.73	72.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.50	45.50	0.00	0.00	0.00	0.00	0.00	0.00	71.75	71.75	0.00	0.00	189.99	189.99	100.00	
21/09/2017	95.36	0.00	0.00	72.77	72.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.64	45.64	0.00	0.00	0.00	0.00	0.00	0.00	71.61	71.61	0.00	0.00	190.03	190.03	100.00	
22/09/2017	95.16	0.00	0.00	72.78	72.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.65	45.65	0.00	0.00	0.00	0.00	0.00	0.00	71.56	71.56	0.00	0.00	189.99	189.99	100.00	
23/09/2017	94.74	0.00	0.00	71.66	71.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.97	44.97	0.00	0.00	0.00	0.00	0.00	0.00	69.75	69.75	0.00	0.00	186.38	186.38	100.00	
24/09/2017	94.13	0.00	0.00	70.92	70.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.54	44.54	0.00	0.00	0.00	0.00	0.00	0.00	69.52	69.52	0.00	0.00	184.98	184.98	100.00	
25/09/2017	94.21	0.00	0.64	23.66	24.29	0.00	0.00	47.01	47.01	0.00	0.00	0.00	0.00	0.00	0.00	44.03	44.03	0.00	0.00	1.26	1.26	0.00	0.00	68.39	68.39	0.00	0.64	184.35	184.99	99.65	
26/09/2017	94.29	0.00	0.00	0.00	0.00	0.00	0.00	75.17	75.17	0.00	0.00	0.00	0.00	0.00	0.00	42.64	42.64	0.00	0.00	0.00	0.00	0.00	0.00	67.22	67.22	0.00	0.00	185.03	185.03	100.00	
27/09/2017	94.17	0.00	0.00	23.82	23.82	0.00	0.00	50.12	50.12	0.00	0.00	0.00	0.00	0.00	0.00	43.47	43.47	0.00	0.00	45.11	45.11	0.00	0.00	23.25	23.25	0.00	0.00	185.76	185.77	100.00	
28/09/2017	94.66	0.00	0.00	59.23	59.23	0.00	0.00	39.72	39.72	0.00	0.00	0.00	0.00	0.00	0.00	62.97	62.97	0.00	0.00	27.62	27.62	0.00	0.00	0.00	0.00	0.00	0.00	189.54	189.54	100.00	
29/09/2017	94.40	0.00	0.00	57.69	57.69	0.00	0.00	45.49	45.49	0.00	0.00	0.00	0.00	0.00	0.00	65.96	65.96	0.00	0.00	21.81	21.81	0.00	0.00	0.00	0.00	0.00	0.00	190.95	190.95	100.00	
30/09/2017	93.66	0.00	0.00	73.33	73.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45.77	45.77	0.00	0.00	71.89	71.89	0.00	0.00	0.00	0.00	0.00	0.00	190.98	190.98	100.00	
Total [ML]:		0.00	0.98	1674.85	1675.83	0.00	0.00	272.87	272.87	0.00	1.37	269.96	271.33	0.01	0.24	1355.82	1356.06	0.25	0.36	406.88	407.49	0.02	0.02	1955.09	1955.13	0.27	2.97	5935.46	5938.71		

Water Volume [%]:
 Untreated: 0.00 %
 Below Dose: 0.05 %
 To Dose: 99.95 %

Submitted By (Print): D. Minor

Signature: Original signed by D. Minor