



pH 6.5 Cadmium Reduction to NSF/ANSI Std 53-2011

Testing Performed & Reported by Pace Analytical Services

Model Name/No	Doulton Biotect Ultra Filters
Test	Cadmium Reduction to NSF/ANSI Std 53-2011
Schedule	Pressure at manufacturer's nominal rated service flow 1.9LPM/0.5 USGPM
Test Water	27-71 mg/L TDS, < 1 NTU, Hardness (15-25 mg/L) pH 6.5 nominal
Influent Challenge	Cadmium 25.87 – 34.22 µg/L
Volume Tested	4542 Litres (1200 USG)
Flushing Volume	10 UV

Test Description:

Doulton Biotect Ultra Filter Element tested under pressure at a nominal flow rate of 1.9 LPM (0.5 USGPM) sampling after every 379L (100 USG).

Results are summarised below.

Table 1

Capacity Tested (L)	(USG)	Cadmium Influent (µg/L)	Cadmium Effluent (µg/L)	% Cadmium Reduction
start up	start up	28.3	< 0.4	98.5
379	100	28.84	< 0.4	98.6
757	200	28.84	< 0.4	98.6
1,136	300	28.84	< 0.4	98.6
1514	400	29.27	0.77	97.4
1893	500	29.27	0.84	97.1
2271	600	30.07	< 0.4	98.7
2650	700	31.99	0.98	96.9
3028	800	34.22	2.7	92.1
3407	900	34.22	2.4	93
3785	1000	31.54	2.74	91.3
4164	1100	31.54	2.24	92.9
4542	1200	25.87	3.54	86.3
Average	Average	30.21	1.36	95.4



pH 6.5 Cadmium Reduction to NSF/ANSI Std 53-2011

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Pace Analytical Services



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LABORATORY ANALYSIS REPORT

DATE: 2015-05-28
CLIENT: Fairey Ceramics
Lyndale Cross, Lower Milehouse Lane
Newcastle Under Lyme
Staffs, GB ST59BT
CONTACT: Joy Delaney

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PROJECT: 2963
COLLECTED BY: CN
PROJECT REC'D: 2014-10-27
PROJECT DESC: Filter

Pace Analytical Product Testing Division received a Doulton Biotect Ultra Filter for the analysis presented in the following report. The filter was tested using the NSF/ANSI Std 53-2011 test method for Cadmium Reduction and provided a filtration efficiency of 95.4%. The following report details the filtration efficiency at each sampling point up to 1200 USG.

All data reported is associated with quality control that met method, EPA, NSF/ANSI or internal laboratory specification. Any exceptions are noted in a footnote or narrative format.

Pace Analytical Services, Inc. appreciates the opportunity to provide you with this product testing service. If you have any questions or comments regarding this report, please feel free to contact us.

Sincerely,

Carin Nawratil

Enclosure

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041020		Description: Influent			Volume: 10 Unit Volume	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	22.8	mg/L	1.0	EPA 310.1	2014-12-15	2014-12-23
Hardness (wc)	15.0	mg/L	1.0	EPA 130.2	2014-12-15	2014-12-22
Low pH Cd	28.30	ug/L	0.40	EPA 200.8	2014-12-15	2014-12-15
pH (wc)	6.68	(None)	NA	EPA 150.1	2014-12-15	2014-12-15
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-15	2015-01-06
Pressure (psi)	62.00	psi	0.00	(None)	2014-12-15	2014-12-15
Temperature (wc)	20.7	°C	NA	EPA 150.1	2014-12-15	2014-12-15
Total Dissolved Solids (wc)	27	mg/L	10	EPA 160.1M	2014-12-15	2014-12-15
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-15	2014-12-15

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041026		Description: Doulton Biotect Ultra- Filter 23			Volume: 10 Unit Volume	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-15	2014-12-15
Low pH Cd	<0.40	ug/L	0.40	EPA 200.8	2014-12-15	2014-12-29
Low pH Cd % Red	98.6	%	NA	EPA 200.8	2014-12-15	2015-01-26

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041021		Description: Influent			Volume: 100 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2014-12-29	2015-01-13
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2014-12-29	2015-01-02
Low pH Cd	28.84	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-29
pH (wc)	6.75	(None)	NA	EPA 150.1	2014-12-29	2014-12-29
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-29	2015-01-06
Pressure (psi)	60.00	psi	0.00	(None)	2014-12-29	2014-12-29
Temperature (wc)	21.9	°C	NA	EPA 150.1	2014-12-29	2014-12-29
Total Dissolved Solids (wc)	59	mg/L	10	EPA 160.1M	2014-12-29	2014-12-29
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-29	2014-12-29

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041028	Description: Doulton Biotect Ultra- Filter 23	Volume: 100 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-29	2014-12-29
Low pH Cd	<0.40	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-30
Low pH Cd % Red	98.6	%	NA	EPA 200.8	2014-12-29	2015-01-26

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041022	Description: Influent	Volume: 200 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2014-12-29	2015-01-13
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2014-12-29	2015-01-02
Low pH Cd	28.84	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-29
pH (wc)	6.75	(None)	NA	EPA 150.1	2014-12-29	2014-12-29
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-29	2015-01-06
Pressure (psi)	60.00	psi	0.00	(None)	2014-12-29	2014-12-29
Temperature (wc)	21.9	°C	NA	EPA 150.1	2014-12-29	2014-12-29
Total Dissolved Solids (wc)	59	mg/L	10	EPA 160.1M	2014-12-29	2014-12-29
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-29	2014-12-29

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041030	Description: Doulton Biotect Ultra- Filter 23	Volume: 200 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-29	2014-12-29
Low pH Cd	<0.40	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-30
Low pH Cd % Red	98.6	%	NA	EPA 200.8	2014-12-29	2015-01-26

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041023		Description: Influent			Volume: 300 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2014-12-29	2015-01-13
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2014-12-29	2015-01-02
Low pH Cd	28.84	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-29
pH (wc)	6.75	(None)	NA	EPA 150.1	2014-12-29	2014-12-29
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-29	2015-01-06
Pressure (psi)	60.00	psi	0.00	(None)	2014-12-29	2014-12-29
Temperature (wc)	21.9	°C	NA	EPA 150.1	2014-12-29	2014-12-29
Total Dissolved Solids (wc)	59	mg/L	10	EPA 160.1M	2014-12-29	2014-12-29
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-29	2014-12-29

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041032		Description: Doulton Biotect Ultra- Filter 23			Volume: 300 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-29	2014-12-29
Low pH Cd	0.41	ug/L	0.40	EPA 200.8	2014-12-29	2014-12-30
Low pH Cd % Red	98.6	%	NA	EPA 200.8	2014-12-29	2015-01-23

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041024		Description: Influent			Volume: 400 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	15.2	mg/L	1.0	EPA 310.1	2014-12-30	2015-01-13
Hardness (wc)	18.0	mg/L	1.0	EPA 130.2	2014-12-30	2015-01-02
Low pH Cd	29.27	ug/L	0.40	EPA 200.8	2014-12-30	2014-12-30
pH (wc)	6.75	(None)	NA	EPA 150.1	2014-12-30	2014-12-30
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-30	2015-01-06
Pressure (psi)	62.00	psi	0.00	(None)	2014-12-30	2014-12-30
Temperature (wc)	17.7	°C	NA	EPA 150.1	2014-12-30	2014-12-30
Total Dissolved Solids (wc)	47	mg/L	10	EPA 160.1M	2014-12-30	2014-12-30
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-30	2014-12-30

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041034		Description: Doulton Biotect Ultra- Filter 23			Volume: 400 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-30	2014-12-30
Low pH Cd	0.77	ug/L	0.40	EPA 200.8	2014-12-30	2015-01-02
Low pH Cd % Red	97.4	%	NA	EPA 200.8	2014-12-30	2015-01-23

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041025		Description: Influent			Volume: 500 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	15.2	mg/L	1.0	EPA 310.1	2014-12-30	2015-01-13
Hardness (wc)	18.0	mg/L	1.0	EPA 130.2	2014-12-30	2015-01-02
Low pH Cd	29.27	ug/L	0.40	EPA 200.8	2014-12-30	2014-12-30
pH (wc)	6.75	(None)	NA	EPA 150.1	2014-12-30	2014-12-30
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2014-12-30	2015-01-06
Pressure (psi)	62.00	psi	0.00	(None)	2014-12-30	2014-12-30
Temperature (wc)	17.7	°C	NA	EPA 150.1	2014-12-30	2014-12-30
Total Dissolved Solids (wc)	47	mg/L	10	EPA 160.1M	2014-12-30	2014-12-30
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2014-12-30	2014-12-30

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041036		Description: Doulton Biotect Ultra- Filter 23			Volume: 500 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2014-12-30	2014-12-30
Low pH Cd	0.84	ug/L	0.40	EPA 200.8	2014-12-30	2015-01-02
Low pH Cd % Red	97.1	%	NA	EPA 200.8	2014-12-30	2015-01-23

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041038		Description: Influent			Volume: 600 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	13.3	mg/L	1.0	EPA 310.1	2015-01-02	2015-01-13
Hardness (wc)	25.0	mg/L	1.0	EPA 130.2	2015-01-02	2015-01-06
Low pH Cd	30.07	ug/L	0.40	EPA 200.8	2015-01-02	2015-01-02
pH (wc)	6.75	(None)	NA	EPA 150.1	2015-01-02	2015-01-02
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-02	2015-01-06
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-02	2015-01-02
Temperature (wc)	17.6	°C	NA	EPA 150.1	2015-01-02	2015-01-02
Total Dissolved Solids (wc)	45	mg/L	10	EPA 160.1M	2015-01-02	2015-01-02
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-02	2015-01-02

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041045		Description: Doulton Biotect Ultra- Filter 23			Volume: 600 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-02	2015-01-02
Low pH Cd	<0.40	ug/L	0.40	EPA 200.8	2015-01-02	2015-01-05
Low pH Cd % Red	98.7	%	NA	EPA 200.8	2015-01-02	2015-01-22

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041039		Description: Influent			Volume: 700 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	13.3	mg/L	1.0	EPA 310.1	2015-01-05	2015-01-13
Hardness (wc)	25.0	mg/L	1.0	EPA 130.2	2015-01-05	2015-01-06
Low pH Cd	31.99	ug/L	0.40	EPA 200.8	2015-01-05	2015-01-05
pH (wc)	6.31	(None)	NA	EPA 150.1	2015-01-05	2015-01-05
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-05	2015-01-06
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-05	2015-01-05
Temperature (wc)	21.1	°C	NA	EPA 150.1	2015-01-05	2015-01-05
Total Dissolved Solids (wc)	55	mg/L	10	EPA 160.1M	2015-01-05	2015-01-05
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-05	2015-01-05

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041047		Description: Doulton Biotect Ultra- Filter 23			Volume: 700 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-05	2015-01-05
Low pH Cd	0.98	ug/L	0.40	EPA 200.8	2015-01-05	2015-01-06
Low pH Cd % Red	96.9	%	NA	EPA 200.8	2015-01-05	2015-01-07

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041040		Description: Influent			Volume: 800 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2015-01-06	2015-01-13
Hardness (wc)	25.0	mg/L	1.0	EPA 130.2	2015-01-06	2015-01-06
Low pH Cd	34.22	ug/L	0.40	EPA 200.8	2015-01-06	2015-01-06
pH (wc)	6.71	(None)	NA	EPA 150.1	2015-01-06	2015-01-06
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-06	2015-01-18
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-06	2015-01-06
Temperature (wc)	18.0	°C	NA	EPA 150.1	2015-01-06	2015-01-06
Total Dissolved Solids (wc)	55	mg/L	10	EPA 160.1M	2015-01-06	2015-01-06
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-06	2015-01-06

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041049		Description: Doulton Biotect Ultra- Filter 23			Volume: 800 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-06	2015-01-06
Low pH Cd	2.70	ug/L	0.40	EPA 200.8	2015-01-06	2015-01-07
Low pH Cd % Red	92.1	%	NA	EPA 200.8	2015-01-06	2015-01-07

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Sample: 041041		Description: Influent			Volume: 900 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2015-01-06	2015-01-13
Hardness (wc)	25.0	mg/L	1.0	EPA 130.2	2015-01-06	2015-01-06
Low pH Cd	34.22	ug/L	0.40	EPA 200.8	2015-01-06	2015-01-08
pH (wc)	6.71	(None)	NA	EPA 150.1	2015-01-06	2015-01-06
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-06	2015-01-18
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-06	2015-01-06
Temperature (wc)	18.0	°C	NA	EPA 150.1	2015-01-06	2015-01-06
Total Dissolved Solids (wc)	55	mg/L	10	EPA 160.1M	2015-01-06	2015-01-06
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-06	2015-01-06

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041051		Description: Doulton Biotect Ultra- Filter 23			Volume: 900 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-06	2015-01-06
Low pH Cd	2.40	ug/L	0.40	EPA 200.8	2015-01-06	2015-01-07
Low pH Cd % Red	93.0	%	NA	EPA 200.8	2015-01-06	2015-01-22

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041042		Description: Influent			Volume: 1000 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	11.4	mg/L	1.0	EPA 310.1	2015-01-07	2015-01-13
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2015-01-07	2015-01-16
Low pH Cd	31.54	ug/L	0.40	EPA 200.8	2015-01-07	2015-01-07
pH (wc)	6.26	(None)	NA	EPA 150.1	2015-01-07	2015-01-07
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-07	2015-01-18
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-07	2015-01-07
Temperature (wc)	20.4	°C	NA	EPA 150.1	2015-01-07	2015-01-07
Total Dissolved Solids (wc)	71	mg/L	10	EPA 160.1M	2015-01-07	2015-01-07
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-07	2015-01-07

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041053	Description: Doulton Biotect Ultra- Filter 23	Volume: 1000 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-07	2015-01-07
Low pH Cd	2.74	ug/L	0.40	EPA 200.8	2015-01-07	2015-01-08
Low pH Cd % Red	91.3	%	NA	EPA 200.8	2015-01-07	2015-01-12

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041043	Description: Influent	Volume: 1100 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	11.4	mg/L	1.0	EPA 310.1	2015-01-07	2015-01-13
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2015-01-07	2015-01-16
Low pH Cd	31.54	ug/L	0.40	EPA 200.8	2015-01-07	2015-01-07
pH (wc)	6.26	(None)	NA	EPA 150.1	2015-01-07	2015-01-07
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-01-07	2015-01-18
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-07	2015-01-07
Temperature (wc)	20.4	°C	NA	EPA 150.1	2015-01-07	2015-01-07
Total Dissolved Solids (wc)	71	mg/L	10	EPA 160.1M	2015-01-07	2015-01-07
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-07	2015-01-07

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041055	Description: Doulton Biotect Ultra- Filter 23	Volume: 1100 Gallons
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<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-07	2015-01-07
Low pH Cd	2.24	ug/L	0.40	EPA 200.8	2015-01-07	2015-01-08
Low pH Cd % Red	92.9	%	NA	EPA 200.8	2015-01-07	2015-01-12

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NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041044		Description: Influent			Volume: 1200 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	13.3	mg/L	1.0	EPA 310.1	2015-01-08	2015-01-13
Hardness (wc)	18.0	mg/L	1.0	EPA 130.2	2015-01-08	2015-01-16
Low pH Cd	25.87 *	ug/L	0.40	EPA 200.8	2015-01-08	2015-01-08
pH (wc)	6.71	(None)	NA	EPA 150.1	2015-01-08	2015-01-08
Polyphosphates (as P) (wc)	0.07	mg/L	0.05	SM 4500-P	2015-01-08	2015-01-18
Pressure (psi)	60.00	psi	0.00	(None)	2015-01-08	2015-01-08
Temperature (wc)	18.0	°C	NA	EPA 150.1	2015-01-08	2015-01-08
Total Dissolved Solids (wc)	60	mg/L	10	EPA 160.1M	2015-01-08	2015-01-08
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-01-08	2015-01-08

NSF/ANSI Standard 53 - 2011 Low pH Cd Reduction

Sample: 041057		Description: Doulton Biotect Ultra- Filter 23			Volume: 1200 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Reporting Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-01-08	2015-01-08
Low pH Cd	3.54	ug/L	0.40	EPA 200.8	2015-01-08	2015-01-09
Low pH Cd % Red	86.3	%	NA	EPA 200.8	2015-01-08	2015-01-12

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PERFORMANCE SUMMARY

Contaminant	Low pH Cd	
Number of Systems Tested	2	
Rated Claim	1200	GALLONS
Performance Indicating Device (PID)	No	
Total Test Volume	1200	GALLONS
Percentage of Rated Claim	100	PERCENT
Manufacturers Rated Flow Rate	0.5	GPM
Average Flow Rate (all devices)	0.50	GPM
Average Test Influent	30.22	ug/L
Average Effluent (all devices)	1.35	ug/L
Maximum Allowable Effluent Level	5	ug/L
Average Filtration Efficiency Doulton Biotect Ultra Filter 23 was 95.4%		

SUBCONTRACTED ANALYSIS SUMMARY

Analysis	Method	Laboratory	Location
Polyphosphates (as P) (	SM 4500-P	Pace - MN	Minneapolis, MN

This report has been reviewed for technical accuracy and completeness. The analyses were performed using EPA or other approved methodologies and the results were reported on an "as received" basis unless otherwise noted. These results relate only to the items tested.

NA = Not Applicable

su - Standard Units

UV - Unit Volume

mg/L = milligrams per Liter

ug/L = micrograms per Liter

GPM = Gallons Per Minute

NTU = Nephelometric Turbidity Unit

(wc) = Water Characteristics are for monitoring purposes only, quality control samples may or may not have been performed.

* = Low pH Cd Max Effluent 5

END OF DOCUMENT

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