



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

Testing Performed & Reported by Pace Analytical Services

Model Name/No	Doulton Biotect Ultra Filters
Test	Mercury Reduction to NSF/ANSI Std 53-2011
Schedule	Pressure at manufacturer's nominal rated service flow 1.9LPM/0.5 USGPM
Test Water	43-48 mg/L TDS, < 1 NTU, Hardness (18-29 mg/L) pH 6.5 nominal
Influent Challenge	Mercury 5.2 - 6.81 µg/L
Volume Tested	4542 Litres (1200 USG)
Flushing Volume	10 UV

Test Description:

Two Doulton Biotect Ultra Filter Elements 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)	Mercury Influent (µg/L)	Mercury Effluent (µg/L)	% Mercury Reduction
start up	start up	6.4	< 0.2	96.9
379	100	5.6	< 0.2	96.5
757	200	6.4	< 0.2	96.9
1,136	300	6.1	0.22	96.4
1514	400	6.8	0.71	89.5
1893	500	6.65	0.28	95.7
2271	600	6.49	0.83	87.2
2650	700	5.91	2.33	60.8
3028	800	6.25	1.25	80
3407	900	6.02	0.33	94.5
3785	1000	5.51	0.37	93.5
4164	1100	5.21	0.44	91.6
4542	1200	6.02	0.27	95.5
Average	Average	6.10	0.70	90.4



**pH 6.5 Mercury Reduction
to NSF/ANSI Std 53-2011**

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LABORATORY ANALYSIS REPORT

DATE:	2015-05-18	PAGE:	1 of 15
CLIENT:	Fairey Ceramics	PROJECT:	3057
	Lymedale Cross, Lower Milehouse Lane	COLLECTED BY:	CN
	Newcastle Under Lyme	PROJECT REC'D:	2015-01-20
	Staffs, GB ST59BT	PROJECT DESC:	Filter
CONTACT:	Joy Delaney		

Pace Analytical Product Testing Division received 2 Doulton Biotect Ultra Filters for the analysis presented in the following report. The filters were tested using the NSF/ANSI Std 53-2011 test method for Mercury Reduction and provided a filtration efficiency of 90.4%. 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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Sample: 041936		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	2015-02-16	2015-02-20
Hardness (wc)	23.0	mg/L	1.0	EPA 130.2	2015-02-16	2015-02-17
Low pH Hg	6.40	ug/L	0.20	EPA 200.8	2015-02-16	2015-02-16
pH (wc)	6.43	(None)	NA	EPA 150.1	2015-02-16	2015-02-16
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-02-16	2015-03-02
Pressure (psi)	60.00	psi	0.00	(None)	2015-02-16	2015-02-16
Temperature (wc)	22.4	°C	NA	EPA 150.1	2015-02-16	2015-02-16
Total Dissolved Solids (wc)	43	mg/L	10	EPA 160.1M	2015-02-16	2015-02-16
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-02-16	2015-02-16

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041942		Description: Doulton Biotect Ultra- Filter 1			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)	2015-02-16	2015-02-16
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-16	2015-02-17
Low pH Hg % Red	96.9	%	NA	EPA 200.8	2015-02-16	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041943		Description: Doulton Biotect Ultra- Filter 2			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)	2015-02-16	2015-02-16
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-16	2015-02-17
Low pH Hg % Red	96.9	%	NA	EPA 200.8	2015-02-16	2015-05-18

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Sample: 041937		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)	12.4	mg/L	1.0	EPA 310.1	2015-02-19	2015-02-20
Hardness (wc)	21.0	mg/L	1.0	EPA 130.2	2015-02-19	2015-02-27
Low pH Hg	5.64	ug/L	0.20	EPA 200.8	2015-02-19	2015-02-19
pH (wc)	6.63	(None)	NA	EPA 150.1	2015-02-19	2015-02-19
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-02-19	2015-03-02
Pressure (psi)	60.00	psi	0.00	(None)	2015-02-19	2015-02-19
Temperature (wc)	20.9	°C	NA	EPA 150.1	2015-02-19	2015-02-19
Total Dissolved Solids (wc)	48	mg/L	10	EPA 160.1M	2015-02-19	2015-02-19
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-02-19	2015-02-19

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041944		Description: Doulton Biotect Ultra- Filter 1			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>
Flow Rate	0.50	GPM	NA	(None)	2015-02-19	2015-02-19
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-19	2015-02-19
Low pH Hg % Red	96.5	%	NA	EPA 200.8	2015-02-19	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041945		Description: Doulton Biotect Ultra- Filter 2			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>
Flow Rate	0.50	GPM	NA	(None)	2015-02-19	2015-02-19
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-19	2015-02-19
Low pH Hg % Red	96.5	%	NA	EPA 200.8	2015-02-19	2015-05-18

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Sample: 041938			Description: Influent		Volume: 200 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	10.5	mg/L	1.0	EPA 310.1	2015-02-24	2015-02-27
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2015-02-24	2015-02-27
Low pH Hg	6.36	ug/L	0.20	EPA 200.8	2015-02-24	2015-02-24
pH (wc)	6.74	(None)	NA	EPA 150.1	2015-02-24	2015-02-24
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-02-24	2015-03-02
Pressure (psi)	60.00	psi	0.00	(None)	2015-02-24	2015-02-24
Temperature (wc)	17.6	°C	NA	EPA 150.1	2015-02-24	2015-02-24
Total Dissolved Solids (wc)	43	mg/L	10	EPA 160.1M	2015-02-24	2015-02-24
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-02-24	2015-02-24

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041946		Description: Doulton Biotect Ultra- Filter 1			Volume: 200 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)	2015-02-24	2015-02-24
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-24	2015-02-25
Low pH Hg % Red	96.9	%	NA	EPA 200.8	2015-02-24	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041947		Description: Doulton Biotect Ultra- Filter 2			Volume: 200 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	Reporting		<u>Date</u>	<u>Date</u>
			<u>Limit</u>	<u>Method</u>	<u>Collected</u>	<u>Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-02-24	2015-02-24
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-24	2015-02-25
Low pH Hg % Red	96.9	%	NA	EPA 200.8	2015-02-24	2015-05-18

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Sample: 041939		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	2015-02-26	2015-02-27
Hardness (wc)	21.0	mg/L	1.0	EPA 130.2	2015-02-26	2015-02-27
Low pH Hg	6.10	ug/L	0.20	EPA 200.8	2015-02-26	2015-02-26
pH (wc)	6.65	(None)	NA	EPA 150.1	2015-02-26	2015-02-26
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-02-26	2015-03-02
Pressure (psi)	60.00	psi	0.00	(None)	2015-02-26	2015-02-26
Temperature (wc)	22.2	°C	NA	EPA 150.1	2015-02-26	2015-02-26
Total Dissolved Solids (wc)	46	mg/L	10	EPA 160.1M	2015-02-26	2015-02-26
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-02-26	2015-02-26

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041948		Description: Doulton Biotect Ultra- Filter 1			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)	2015-02-26	2015-02-26
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-02-26	2015-02-26
Low pH Hg % Red	96.7	%	NA	EPA 200.8	2015-02-26	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041949		Description: Doulton Biotect Ultra- Filter 2			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)	2015-02-26	2015-02-26
Low pH Hg	0.23	ug/L	0.20	EPA 200.8	2015-02-26	2015-02-26
Low pH Hg % Red	96.2	%	NA	EPA 200.8	2015-02-26	2015-02-27

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Sample: 041940			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)	10.5	mg/L	1.0	EPA 310.1	2015-03-02	2015-03-06
Hardness (wc)	23.0	mg/L	1.0	EPA 130.2	2015-03-02	2015-03-06
Low pH Hg	6.81	ug/L	0.20	EPA 200.8	2015-03-02	2015-03-02
pH (wc)	6.73	(None)	NA	EPA 150.1	2015-03-02	2015-03-02
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-02	2015-03-17
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-02	2015-03-02
Temperature (wc)	22.5	°C	NA	EPA 150.1	2015-03-02	2015-03-02
Total Dissolved Solids (wc)	47	mg/L	10	EPA 160.1M	2015-03-02	2015-03-02
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-02	2015-03-02

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041950		Description: Doulton Biotect Ultra- Filter 1			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)	2015-03-02	2015-03-02
Low pH Hg	0.78	ug/L	0.20	EPA 200.8	2015-03-02	2015-03-02
Low pH Hg % Red	88.5	%	NA	EPA 200.8	2015-03-02	2015-03-06

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041951		Description: Doulton Biotect Ultra- Filter 2			Volume: 400 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	Reporting		<u>Date</u>	<u>Date</u>
			<u>Limit</u>	<u>Method</u>	<u>Collected</u>	<u>Analyzed</u>
Flow Rate	0.50	GPM	NA	(None)	2015-03-02	2015-03-02
Low pH Hg	0.64	ug/L	0.20	EPA 200.8	2015-03-02	2015-03-02
Low pH Hg % Red	90.6	%	NA	EPA 200.8	2015-03-02	2015-03-06

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Sample: 041941		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)	11.4	mg/L	1.0	EPA 310.1	2015-03-04	2015-03-06
Hardness (wc)	29.0	mg/L	1.0	EPA 130.2	2015-03-04	2015-03-06
Low pH Hg	6.65	ug/L	0.20	EPA 200.8	2015-03-04	2015-03-04
pH (wc)	6.75	(None)	NA	EPA 150.1	2015-03-04	2015-03-04
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-04	2015-03-17
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-04	2015-03-04
Temperature (wc)	21.1	°C	NA	EPA 150.1	2015-03-04	2015-03-04
Total Dissolved Solids (wc)	46	mg/L	10	EPA 160.1M	2015-03-04	2015-03-04
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-04	2015-03-04

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Sample: 041952		Description: Doulton Biotect Ultra- Filter 1			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)	2015-03-04	2015-03-04
Low pH Hg	0.32	ug/L	0.20	EPA 200.8	2015-03-04	2015-03-05
Low pH Hg % Red	95.2	%	NA	EPA 200.8	2015-03-04	2015-03-06

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041953		Description: Doulton Biotect Ultra- Filter 2			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)	2015-03-04	2015-03-04
Low pH Hg	0.23	ug/L	0.20	EPA 200.8	2015-03-04	2015-03-05
Low pH Hg % Red	96.5	%	NA	EPA 200.8	2015-03-04	2015-03-06

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Sample: 041954			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)	11.4	mg/L	1.0	EPA 310.1	2015-03-06	2015-03-06
Hardness (wc)	21.0	mg/L	1.0	EPA 130.2	2015-03-06	2015-03-06
Low pH Hg	6.49	ug/L	0.20	EPA 200.8	2015-03-06	2015-03-06
pH (wc)	6.68	(None)	NA	EPA 150.1	2015-03-06	2015-03-06
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-06	2015-03-17
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-06	2015-03-06
Temperature (wc)	21.8	°C	NA	EPA 150.1	2015-03-06	2015-03-06
Total Dissolved Solids (wc)	46	mg/L	10	EPA 160.1M	2015-03-06	2015-03-06
Turbidity (wc)	<1.00 ¹⁵	NTU	1.00	EPA 180.1	2015-03-06	2015-03-06

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Sample: 041961		Description: Doulton Biotect Ultra- Filter 1			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	0.40	GPM	NA	(None)	2015-03-06	2015-03-06
Low pH Hg	0.33	ug/L	0.20	EPA 200.8	2015-03-06	2015-03-09
Low pH Hg % Red	94.9	%	NA	EPA 200.8	2015-03-06	2015-03-09

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Sample: 041962		Description: Doulton Biotect Ultra- Filter 2			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	0.40	GPM	NA	(None)	2015-03-06	2015-03-06
Low pH Hg	1.32	ug/L	0.20	EPA 200.8	2015-03-06	2015-03-09
Low pH Hg % Red	79.7	%	NA	EPA 200.8	2015-03-06	2015-03-09

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Sample: 041955			Description: Influent		Volume: 700 Gallons	
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Limit</u>	<u>Method</u>	<u>Date Collected</u>	<u>Date Analyzed</u>
Alkalinity (wc)	11.4	mg/L	1.0	EPA 310.1	2015-03-12	2015-03-13
Hardness (wc)	21.0	mg/L	1.0	EPA 130.2	2015-03-12	2015-03-13
Low pH Hg	5.91	ug/L	0.20	EPA 200.8	2015-03-12	2015-03-12
pH (wc)	6.70	(None)	NA	EPA 150.1	2015-03-12	2015-03-12
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-12	2015-03-17
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-12	2015-03-12
Temperature (wc)	21.4	°C	NA	EPA 150.1	2015-03-12	2015-03-12
Total Dissolved Solids (wc)	44	mg/L	10	EPA 160.1M	2015-03-12	2015-03-12
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-12	2015-03-12

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041963		Description: Doulton Biotect Ultra- Filter 1			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	0.40	GPM	NA	(None)	2015-03-12	2015-03-12
Low pH Hg	2.37 *	ug/L	0.20	EPA 200.8	2015-03-12	2015-03-12
Low pH Hg % Red	59.9	%	NA	EPA 200.8	2015-03-12	2015-03-13

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041964		Description: Doulton Biotect Ultra- Filter 2			Volume: 700 Gallons	
Reporting					Date	Date
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Limit</u>	<u>Method</u>	<u>Collected</u>	<u>Analyzed</u>
Flow Rate	0.40	GPM	NA	(None)	2015-03-12	2015-03-12
Low pH Hg	2.28 *	ug/L	0.20	EPA 200.8	2015-03-12	2015-03-12
Low pH Hg % Red	61.4	%	NA	EPA 200.8	2015-03-12	2015-03-13

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Sample: 041956		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	2015-03-16	2015-03-30
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2015-03-16	2015-03-25
Low pH Hg	6.25	ug/L	0.20	EPA 200.8	2015-03-16	2015-03-16
pH (wc)	6.75	(None)	NA	EPA 150.1	2015-03-16	2015-03-16
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-16	2015-03-30
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-16	2015-03-16
Temperature (wc)	17.5	°C	NA	EPA 150.1	2015-03-16	2015-03-16
Total Dissolved Solids (wc)	45	mg/L	10	EPA 160.1M	2015-03-16	2015-03-16
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-16	2015-03-16

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Sample: 041965		Description: Doulton Biotect Ultra- Filter 1			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	0.44	GPM	NA	(None)	2015-03-16	2015-03-16
Low pH Hg	1.30	ug/L	0.20	EPA 200.8	2015-03-16	2015-03-16
Low pH Hg % Red	79.2	%	NA	EPA 200.8	2015-03-16	2015-03-17

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Sample: 041966		Description: Doulton Biotect Ultra- Filter 2			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	0.42	GPM	NA	(None)	2015-03-16	2015-03-16
Low pH Hg	1.19	ug/L	0.20	EPA 200.8	2015-03-16	2015-03-16
Low pH Hg % Red	81.0	%	NA	EPA 200.8	2015-03-16	2015-03-17

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Sample: 041957		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	2015-03-18	2015-03-30
Hardness (wc)	19.0	mg/L	1.0	EPA 130.2	2015-03-18	2015-03-25
Low pH Hg	6.02	ug/L	0.20	EPA 200.8	2015-03-18	2015-03-18
pH (wc)	6.67	(None)	NA	EPA 150.1	2015-03-18	2015-03-18
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-18	2015-03-30
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-18	2015-03-18
Temperature (wc)	20.5	°C	NA	EPA 150.1	2015-03-18	2015-03-18
Total Dissolved Solids (wc)	45	mg/L	10	EPA 160.1M	2015-03-18	2015-03-18
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-18	2015-03-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041967		Description: Doulton Biotect Ultra- Filter 1			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	0.45	GPM	NA	(None)	2015-03-18	2015-03-18
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-03-18	2015-03-18
Low pH Hg % Red	96.7	%	NA	EPA 200.8	2015-03-18	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041968		Description: Doulton Biotect Ultra- Filter 2			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	0.39	GPM	NA	(None)	2015-03-18	2015-03-18
Low pH Hg	0.46	ug/L	0.20	EPA 200.8	2015-03-18	2015-03-18
Low pH Hg % Red	92.4	%	NA	EPA 200.8	2015-03-18	2015-03-19

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Sample: 041958		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)	10.5	mg/L	1.0	EPA 310.1	2015-03-20	2015-03-30
Hardness (wc)	21.0	mg/L	1.0	EPA 130.2	2015-03-20	2015-03-25
Low pH Hg	5.51	ug/L	0.20	EPA 200.8	2015-03-20	2015-03-20
pH (wc)	6.69	(None)	NA	EPA 150.1	2015-03-20	2015-03-20
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-20	2015-03-30
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-20	2015-03-20
Temperature (wc)	21.1	°C	NA	EPA 150.1	2015-03-20	2015-03-20
Total Dissolved Solids (wc)	47	mg/L	10	EPA 160.1M	2015-03-20	2015-03-20
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-20	2015-03-20

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041969		Description: Doulton Biotect Ultra- Filter 1			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>
Flow Rate	0.49	GPM	NA	(None)	2015-03-20	2015-03-20
Low pH Hg	<0.20	ug/L	0.20	EPA 200.8	2015-03-20	2015-03-20
Low pH Hg % Red	96.4	%	NA	EPA 200.8	2015-03-20	2015-05-18

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041970		Description: Doulton Biotect Ultra- Filter 2			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>
Flow Rate	0.48	GPM	NA	(None)	2015-03-20	2015-03-20
Low pH Hg	0.53	ug/L	0.20	EPA 200.8	2015-03-20	2015-03-20
Low pH Hg % Red	90.4	%	NA	EPA 200.8	2015-03-20	2015-03-23

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Sample: 041959		Description: Influent			Volume: 1100 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	2015-03-24	2015-03-30
Hardness (wc)	20.0	mg/L	1.0	EPA 130.2	2015-03-24	2015-03-25
Low pH Hg	5.21	ug/L	0.20	EPA 200.8	2015-03-24	2015-03-24
pH (wc)	6.29	(None)	NA	EPA 150.1	2015-03-24	2015-03-24
Polyphosphates (as P) (wc)	<0.05	mg/L	0.05	SM 4500-P	2015-03-24	2015-03-30
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-24	2015-03-24
Temperature (wc)	20.8	°C	NA	EPA 150.1	2015-03-24	2015-03-24
Total Dissolved Solids (wc)	46	mg/L	10	EPA 160.1M	2015-03-24	2015-03-24
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-24	2015-03-24

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041971		Description: Doulton Biotect Ultra- Filter 1			Volume: 1100 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	0.40	GPM	NA	(None)	2015-03-24	2015-03-24
Low pH Hg	0.29	ug/L	0.20	EPA 200.8	2015-03-24	2015-03-24
Low pH Hg % Red	94.4	%	NA	EPA 200.8	2015-03-24	2015-04-02

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041972		Description: Doulton Biotect Ultra- Filter 2			Volume: 1100 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	0.40	GPM	NA	(None)	2015-03-24	2015-03-24
Low pH Hg	0.59	ug/L	0.20	EPA 200.8	2015-03-24	2015-03-24
Low pH Hg % Red	88.7	%	NA	EPA 200.8	2015-03-24	2015-04-02

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Sample: 041960			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)	10.5	mg/L	1.0	EPA 310.1	2015-03-26	2015-03-30
Hardness (wc)	18.0	mg/L	1.0	EPA 130.2	2015-03-26	2015-03-27
Low pH Hg	6.02	ug/L	0.20	EPA 200.8	2015-03-26	2015-03-26
pH (wc)	6.50	(None)	NA	EPA 150.1	2015-03-26	2015-03-26
Polyphosphates (as P) (wc)	0.16	mg/L	0.05	SM 4500-P	2015-03-26	2015-03-30
Pressure (psi)	60.00	psi	0.00	(None)	2015-03-26	2015-03-26
Temperature (wc)	20.9	°C	NA	EPA 150.1	2015-03-26	2015-03-26
Total Dissolved Solids (wc)	46	mg/L	10	EPA 160.1M	2015-03-26	2015-03-26
Turbidity (wc)	<1.00	NTU	1.00	EPA 180.1	2015-03-26	2015-03-26

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041973		Description: Doulton Biotect Ultra- Filter 1			Volume: 1200 Gallons	
Reporting					Date	Date
<u>Compound</u>	<u>Results</u>	<u>Units</u>	<u>Limit</u>	<u>Method</u>	<u>Collected</u>	<u>Analyzed</u>
Flow Rate	0.45	GPM	NA	(None)	2015-03-26	2015-03-26
Low pH Hg	0.22	ug/L	0.20	EPA 200.8	2015-03-26	2015-03-26
Low pH Hg % Red	96.3	%	NA	EPA 200.8	2015-03-26	2015-03-27

NSF/ANSI Standard 53 - 2011 Mercury Reduction

Sample: 041974		Description: Doulton Biotect Ultra- Filter 2			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	0.45	GPM	NA	(None)	2015-03-26	2015-03-26
Low pH Hg	0.31	ug/L	0.20	EPA 200.8	2015-03-26	2015-03-26
Low pH Hg % Red	94.9	%	NA	EPA 200.8	2015-03-26	2015-03-27

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PERFORMANCE SUMMARY

Contaminant	Low pH Hg	
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)	0.46	GPM
Average Test Influent	6.11	ug/L
Average Effluent (all devices)	0.56	ug/L
Maximum Allowable Effluent Level	2	ug/L
Average Filtration Efficiency Doulton Biotect Ultra Filter 1 was 91.4%		
Average Filtration Efficiency Doulton Biotect Ultra Filter 2 was 89.4%		

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 Hg Max Effluent 2

15 - The continuing calibration for this compound is outside of Pace Analyticals acceptance limits. The results may be biased low.

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