Ultra Fluoride Ceramic Filter

Filtering Fluoride from drinking water

Doulton® has introduced a high capacity ceramic filter candle that removes naturally occurring and added fluoride from drinking water, into its range of drinking water filtration solutions.

Fluoride is a naturally occurring mineral found in our water sources in varying amounts depending on where you are situated. In some areas local water authorities add fluoride to the water supply to achieve an agreed standard level, for example in the UK the current standard for Fluoride is 1.5mg/l.

Consuming water which contains the standard level of Fluoride is known to prevent oral health conditions such as tooth decay. However, this can also have negative health implications such as fluorosis.

Compatible with the existing range of Doulton® SS Gravity Filter Systems, the Ultra Fluoride filter provides a high flow solution for the removal of fluoride for those who desire it.

About our Ultra Fluoride ceramic filter:

The Ultra Fluoride water filter provides you with the option to remove both naturally-occurring and added fluoride from your drinking water.

- Sterasyl® microfilter plus Fluoride and Lead Removal Media with Activated Carbon
- Provides superior reduction of: Fluoride, Bacteria, Cysts, Particles, Chlorine, Organics and Lead.
- Filter capacity is 1500 litres (400 US gallons) - before replacement to guarantee performance

Technical Specification:

	Ultra Fluoride Filter
Recommended Flow Rate	1.2 l/hr under gravity
Water Supply	Municipal
Temperature	5 - 30 (°C)

A GENUINE WATER FILTER

MADE IN BRITAIN

CERTIFIED LUCIDEON MANAGEMENT SYSTEM ISO 9001 UKAS

Water Quality® ASSOCIATION

Certifications held by Fairey Industrial Ceramics Limited, see website for full details.

Doulton® is a trademark registered to Fairey Industrial Ceramics Limited.

Manufacturer tested, see website for full technical and performance specifications and product availability.

State restrictions may limit the availability of certain products in California, Iowa and Wisconsin.

For use with microbiologically safe, treated municipal water.

Trust the Doulton difference.

Fairey Industrial Ceramics Limited trading as Doulton Water Filters. August 2020.

www.doulton.com

ENVIROTEK LABORATORIES, INC. Test Report
1041 Glassboro Road Suite D-1, Williamstown NJ 08094
PHONE 856-533-0445 www.enviroteklab.com
EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

TEST RESULTS

FOR

Doulton Water Filters

LYMEDALE CROSS, LOWER MILEHOUSE LANE

STAFFORDSHIRE, UK, ST5 9BT

British Berkefeld Ultra Sterasyl gravity Filter Elements

NSF/ANSI Standard 53

Chemical Reduction Tests Results

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BRITISH BERKEFELD ULTRA STERASYL WATER TEST REPORT

Report # 21-155
Report Date: 07/23/2021
Customer Name: Doulton Water Filters

Introduction

An accelerated performance test has been conducted on two British Berkefeld Ultra Sterasyl gravity filter elements fitted into a stainless-steel gravity filter housing. Each filter was exposed to test water containing an influent challenge of pesticidal contaminants according to NSF/ANSI Standard 53 test requirements. Influent and effluent challenges were taken and analyzed at 303-liter intervals to verify the filtration efficiency of each candle at each stage up to 3030 liters. The final filtration efficiencies are reported in the tables in the following conclusion section.

Test Water Characteristics

Sample Point	Temp. 17.5-22.5 °C	pH 7.00-8.00	TDS 200-500	Turbidity <1 NTU	TOC >1 ppm	Flow Rate (LPM) F1	F2
Start (10L)	19.7	7.1	239	0.4	1.3	0.13	0.13
303 Liters	20.3	7.2	241	0.4	1.3	0.13	0.13
606 Liters	22.1	7.2	247	0.4	1.3	0.13	0.13
909 liters	22.1	7.1	207	0.4	1.3	0.13	0.13
1212 Liters	20.7	7.2	239	0.4	1.3	0.10	0.10
1515 Liters	20.9	7.2	237	0.4	1.3	0.10	0.10
1818 Liters	22.1	7.1	239	0.4	1.3	0.10	0.10
2121 Liters	22.2	7.2	241	0.4	1.3	0.10	0.10
2424 liters	21.7	7.1	239	0.4	1.3	0.10	0.10
2727 Liters	21.9	7.2	243	0.4	1.3	0.10	0.10
3030 liters	22.2	7.2	239	0.4	1.3	0.10	0.10
Average	**21.45**	**1.2**	**237**	**0.4**	**1.3**	**0.11**	**0.11**

Conclusion

The final filtration efficiency for the British Berkefeld Ultra Sterasyl gravity filter elements for pesticidal contaminants during the test is summarized in the following tables.

Filter #1 data Summary

Pesticides Contaminants in ug/L										
Contaminant	Influent Water					Effluent Water				
	Start (10L)	303 liters	606 liters	909 liters	1212 liters	Start (10L)	303 liters	606 liters	909 liters	1212 liters
Alachlor	56.06	44.67	44.07	36.42	42.6	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	37.65	46.29	38.53	51.88	51.86	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	54.44	49.36	49.66	38.35	35.97	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	51.78	43.98	49.23	46.9	45.87	<0.1	<0.1	<0.1	<0.1	<0.1
Propachlor	57.91	49.85	48.4	53.48	63.86	<0.1	<0.1	<0.1	<0.1	<0.1
Molinate	52.64	47.72	52.62	29.07	60.82	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	53.56	40.04	51.75	51.05	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Atrazine	57.14	47.53	52.61	49.99	53.95	<0.1	<0.1	<0.1	<0.1	<0.1
Simazine	58.67	44.91	46.19	52.6	60.62	<0.1	<0.1	<0.1	<0.1	<0.1
Metribuzin	59.68	47.02	53.29	53.92	49.85	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	51.16	51.73	33.24	94.81	54.24	<0.1	<0.1	<0.1	<0.1	<0.1
Metolachlor	57.41	44.59	35.32	95.7	51.17	<0.1	<0.1	<0.1	<0.1	<0.1
Butylate	62.73	45.14	41.76	74.84	52.37	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	55.76	46.81	28.79	86.72	52.6	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	52.61	42.25	28.42	50.46	54.13	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-Chlordane	49.89	48.05	28.77	86.37	52.12	<0.1	<0.1	<0.1	<0.1	<0.1
Butachlore	55.7	45.25	68.98	46.18	50.89	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	46.63	48.68	33.16	69.92	56.12	<0.1	<0.1	<0.1	<0.1	<0.1
Cis-Chlordane	27.94	52.84	43.42	70.91	51.41	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	91.22	51.97	42.24	58.44	48.86	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	56.11	50.48	34.1	93.43	53.81	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	61.73	41.47	44.01	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	46.63	49.2	53.19	64.65	49.51	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	55.21	51.94	63.28	39.67	52.53	<0.1	<0.1	<0.1	<0.1	1.73
Endrin Aldehyde	60.88	21.47	44.4	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	55.21	52.59	66.1	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	63.96	49.22	67.72	49.22	56.02	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	58.42	48.01	62.87	80.25	48.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	62.93	44.13	60.82	96.99	53.73	<0.1	<0.1	<0.1	<0.1	<0.1
Bromacil	35.81	44.77	33.91	28.85	42.97	<0.1	<0.1	<0.1	<0.1	<0.1
Carbofuran	55.04	50.9	63.6	52.89	52.27	2.78	<0.1	<0.1	<0.1	0.66
Chlorneb	58.56	50.03	33.75	90.44	54.55	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorthalonil	68.83	48.98	39.96	88.25	57.34	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpropham	34.69	44.6	40.49	54.83	54.83	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	57.14	49.14	52.07	43.81	51.16	<0.1	<0.1	<0.1	<0.1	<0.1
Cyanizine	56.66	41.01	69.21	50.01	55.94	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	50.58	48.5	39.04	62.42	51.57	<0.1	<0.1	<0.1	<0.1	<0.1
Diphenamid	47.39	41.8	40.6	50.26	51.78	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	43.59	46.18	40.54	133.71	52.35	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	61.16	41.96	32.62	90.66	52.13	<0.1	<0.1	<0.1	<0.1	<0.1
Fenarimol	54.07	42.77	37.58	106.03	52.74	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoridone	57.18	43.33	66.38	370.99	54.71	<0.1	<0.1	<0.1	<0.1	<0.1
Ethoprop	65.36	49.98	56.94	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	65.36	49.98	57.37	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
PCB's	58.52	48.49	33.06	105.14	46.7	<0.1	<0.1	<0.1	<0.1	<0.1

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Pesticides Contaminants in ug/L

Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Alachlor	50.15	71.25	>99.6%	58.08	41.09	23.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.6%
Hexachlorobenzene	58.7	90.18	>99.8%	89.99	50	53.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Hexachlorocyclopentadiene	51.25	47.81	>99.8%	51.27	53.53	50.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Delta-BHC	42.19	47.57	>99.1%	46.15	48.74	11.29	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.1%
Propachlor	52.91	58.68	>99.8%	47.29	46.59	80.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Molinate	57.22	68.19	>99.9%	32.46	49.5	65.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Alpha-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Beta-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Gamma-BHC (Lindane)	37.71	42.72		40.85	43.49	62.48	<0.1	<0.1	<0.1	0.11	0.84	0.31	99.5%
Atrazine	49.59	56.88	>99.9%	65.33	41.07	78.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Simazine	51.78	46.11	>99.8%	71.08	48.19	46.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Metribuzin	47.54	46.94	>99.8%	52.09	43.13	37.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Heptachlor	26.74	48.73	>99.9%	30.15	68.98	72.45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Metolachlor	25.84	47.65	>99.9%	20.63	65.11	69.67	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butylate	22.42	50.87	>99.8%	24.52	53.56	52.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Aldrin	25.52	46.32	>99.9%	25.74	68.37	78.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Heptachlor Epoxide	25.1	41.56	>99.9%	29.69	63.61	76.76	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Trans-Chlordane	26.26	49.01	>99.9%	30.22	70.04	75.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butachlore	26.62	48.52	>99.8%	20.17	66.88	63.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan I	16.92	46.01	>99.8%	53.77	66.37	62.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cis-Chlordane	40.13	44.23	>99.8%	22.6	71.95	46.92	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
p,p'-DDE	34.16	53.45	>99.9%	22.05	68.83	79.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Dieldrin	24.24	44.6	>99.9%	25.49	64.26	73.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endosulfan II	20.97	43.43	>99.9%	21.43	71.66	69.33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDD	34.28	52.53	>99.8%	26.67	94.85	57.79	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endrin Aldehyde	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDT	34.28	53.53	>99.8%	26.67	93.36	57.79	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan Sulfate	41.9	54.02	>99.9%	46.87	58.04	79.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin Ketone	26.7	47.33	>99.8%	28.22	63.41	63.85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Methoxychlor	52.76	76.08	>99.9%	65.81	67.27	98.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Bromacil	26.83	48.68	>99.9%	39.69	67.12	67.98	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Carbofuran	25.75	49.36	>99.8%	23.76	64.66	52.22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorneb	27.43	44.59	>99.9%	56.67	71.94	91.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Chlorthalonil	24.35	44.01	>99.8%	44.45	56.33	55.52	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpropham	69.84	47.02	>99.8%	44.77	51.63	50.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpyriphos	22.11	58.88	>99.8%	23.57	59.91	55.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cyanizine	23.35	47.35	>99.8%	26.41	65.24	51.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Dichlorvos	23.59	46.36	>99.8%	55.23	61.72	63.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Diphenamid	39.29	44.45	>99.9%	75.13	63.37	81.14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Disulfoton	25.77	45.18	93.9%	53.61	71.58	81.36	<0.1	<0.1	<0.1	1.45	3.84	5.05	93.9%
Fenamiphos	27.9	43.41	>99.9%	20.6	69.88	64.77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fenarimol	25.75	48.4	>99.9%	26.92	64.49	70.86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fluoridone	25.04	42.59	>99.8%	25.56	27.42	51.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Ethoprop	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Toxaphene	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
PCB's	27.69	53.33	>99.9%	22.87	67.26	99.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%

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Filter #2 data Summary

Pesticides Contaminants in ug/L										
Contaminant	Influent Water					Effluent Water				
	Start (10L)	303 liters	606 liters	909 liters	1212 liters	Start (10L)	303 liters	606 liters	909 liters	1212 liters
Alachlor	56.06	44.67	44.07	36.42	42.6	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	37.65	46.29	38.53	51.88	51.86	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	54.44	49.36	49.66	38.35	35.97	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	51.78	43.98	49.23	46.9	45.87	<0.1	<0.1	<0.1	<0.1	<0.1
Propachlor	57.91	49.85	48.4	53.48	63.86	<0.1	<0.1	<0.1	<0.1	<0.1
Molinate	52.64	47.72	52.62	29.07	60.82	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	53.56	40.04	51.75	51.05	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Atrazine	57.14	47.53	52.61	49.99	53.95	<0.1	<0.1	<0.1	<0.1	<0.1
Simazine	58.67	44.91	46.19	52.6	60.62	<0.1	<0.1	<0.1	<0.1	<0.1
Metribuzin	59.68	47.02	53.29	53.92	49.85	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	51.16	51.73	33.24	94.81	54.24	<0.1	<0.1	<0.1	<0.1	<0.1
Metolachlor	57.41	44.59	35.32	95.7	51.17	<0.1	<0.1	<0.1	<0.1	<0.1
Butylate	62.73	45.14	41.76	74.84	52.37	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	55.76	46.81	28.79	86.72	52.6	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	52.61	42.25	28.42	50.46	54.13	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-Chlordane	49.89	48.05	28.77	86.37	52.12	<0.1	<0.1	<0.1	<0.1	<0.1
Butachlore	55.7	45.25	68.98	46.18	50.89	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	46.63	48.68	33.16	69.92	56.12	<0.1	<0.1	<0.1	<0.1	<0.1
Cis-Chlordane	27.94	52.84	43.42	70.91	51.41	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	91.22	51.97	42.24	58.44	48.86	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	56.11	50.48	34.1	93.43	53.81	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	61.73	41.47	44.01	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	46.63	49.2	53.19	64.65	49.51	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	55.21	51.94	63.28	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	60.88	21.47	44.4	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	55.21	52.59	66.1	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	63.96	49.22	67.72	49.22	56.02	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	58.42	48.01	62.87	80.25	48.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	62.93	44.13	60.82	96.99	53.73	<0.1	<0.1	<0.1	<0.1	<0.1
Bromacil	35.81	44.77	33.91	28.85	42.97	2.69	<0.1	<0.1	<0.1	<0.1
Carbofuran	55.04	50.9	63.6	52.89	52.27	<0.1	<0.1	<0.1	<0.1	1.19
Chlorneb	58.56	50.03	33.75	90.44	54.55	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorthalonil	68.83	48.98	39.96	88.25	57.34	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpropham	34.69	44.6	40.49	54.83	54.83	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	57.14	49.14	52.07	43.81	51.16	<0.1	<0.1	<0.1	<0.1	<0.1
Cyanizine	56.66	41.01	69.21	50.01	55.94	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	50.58	48.5	39.04	62.42	51.57	<0.1	<0.1	<0.1	<0.1	<0.1
Diphenamid	47.39	41.8	40.6	50.26	51.78	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	43.59	46.18	40.54	133.71	52.35	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	61.16	41.96	32.62	90.66	52.13	<0.1	<0.1	<0.1	<0.1	<0.1
Fenarimol	54.07	42.77	37.58	106.03	52.74	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoridone	57.18	43.33	66.38	370.99	54.71	<0.1	<0.1	<0.1	<0.1	<0.1
Ethoprop	65.36	49.98	56.94	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	65.36	49.98	57.37	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
PCB's	58.52	48.49	33.06	105.14	46.7	<0.1	<0.1	<0.1	<0.1	<0.1

ENVIROTEK LABORATORIES, INC. Test Report

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EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

Pesticides Contaminants in ug/L													
Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Alachlor	50.15	71.25	>99.6%	58.08	41.09	23.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.6%
Hexachlorobenzene	58.7	90.18	>99.8%	89.99	50	53.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Hexachlorocyclopentadiene	51.25	47.81	>99.8%	51.27	53.53	50.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Delta-BHC	42.19	47.57	>99.1%	46.15	48.74	11.29	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.1%
Propachlor	52.91	58.68	>99.9%	47.29	46.59	80.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Molinate	57.22	68.19	>99.9%	32.46	49.5	65.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Alpha-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Beta-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Gamma-BHC (Lindane)	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	1.43	0.39	0.72	0.85	>99.8%
Atrazine	49.59	56.88	>99.9%	65.33	41.07	78.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Simazine	51.78	46.11	>99.8%	71.08	48.19	46.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Metribuzin	47.54	46.94	>99.7%	52.09	43.13	37.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.7%
Heptachlor	26.74	48.73	>99.9%	30.15	68.98	72.45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Metolachlor	25.84	47.65	>99.9%	20.63	65.11	69.67	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butylate	22.42	50.87	>99.8%	24.52	53.56	52.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Aldrin	25.52	46.32	>99.9%	25.74	68.37	78.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Heptachlor Epoxide	25.1	41.56	>99.9%	29.69	63.61	76.76	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Trans-Chlordane	26.26	49.01	>99.9%	30.22	70.04	75.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butachlore	26.62	48.52	>99.8%	20.17	66.88	63.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan I	16.92	46.01	>99.8%	53.77	66.37	62.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cis-Chlordane	40.13	44.23	>99.8%	22.6	71.95	46.92	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
p,p'-DDE	34.16	53.45	>99.9%	22.05	68.83	79.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Dieldrin	24.24	44.6	99.6%	25.49	64.26	73.02	<0.1	<0.1	<0.1	<0.1	<0.1	0.30	99.6%
Endrin	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	>99.9%
Endosulfan II	20.97	43.43	>99.9%	21.43	71.66	69.33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDD	34.28	52.53	96.9%	26.67	94.85	57.79	0.52	<0.1	<0.1	<0.1	<0.1	1.80	96.9%
Endrin Aldehyde	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	>99.9%
p,p'-DDT	34.28	53.53	96.9%	26.67	93.36	57.79	0.52	<0.1	<0.1	<0.1	<0.1	1.80	96.9%
Endosulfan Sulfate	41.9	54.02	>99.9%	46.87	58.04	79.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin Ketone	26.7	47.33	>99.8%	28.22	63.41	63.85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Methoxychlor	52.76	76.08	>99.9%	65.81	67.27	98.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Bromacil	26.83	48.68	>99.9%	39.69	67.12	67.98	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Carbofuran	25.75	49.36	98.8%	23.76	64.66	52.22	0.15	<0.1	<0.1	0.89	0.77	0.61	98.8%
Chlorneb	27.43	44.59	>99.9%	56.67	71.94	91.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Chlorthalonil	24.35	44.01	>99.8%	44.45	56.33	55.52	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpropham	69.84	47.02	>99.8%	44.77	51.63	50.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpyriphos	22.11	58.88	99.8%	23.57	59.91	55.31	<0.1	<0.1	<0.1	<0.1	0.1	0.1	99.8%
Cyanizine	23.35	47.35	>99.8%	26.41	65.24	51.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Dichlorvos	23.59	46.36	>99.8%	55.23	61.72	63.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Diphenamid	39.29	44.45	>99.9%	75.13	63.37	81.14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Disulfoton	25.77	45.18	89.6%	53.61	71.58	81.36	<0.1	<0.1	1.78	9.28	6.51	8.49	89.6%
Fenamiphos	27.9	43.41	>99.9%	20.6	69.88	64.77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fenarimol	25.75	48.4	>999%	26.92	64.49	70.86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>999%
Fluoridone	25.04	42.59	>99.8%	25.56	27.42	51.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Ethoprop	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Toxaphene	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
PCB's	27.69	53.33	>99.9%	22.87	67.26	99.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%

Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

Jaime Young

Jaime Young
Lab Director

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EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

TEST RESULTS

FOR

Doulton Water Filters

LYMEDALE CROSS, LOWER MILEHOUSE LANE

STAFFORDSHIRE, UK, ST5 9BT

British Berkefeld Ultra Sterasyl gravity Filter Elements

NSF/ANSI Standard 53

Chemical Reduction Tests Results

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BRITISH BERKEFELD ULTRA STERASYL WATER TEST REPORT

Report # 21-155
Report Date: 07/23/2021
Customer Name: Doulton Water Filters

Introduction

An accelerated performance test has been conducted on two British Berkefeld Ultra Sterasyl gravity filter elements fitted into a stainless-steel gravity filter housing. Each filter was exposed to test water containing an influent challenge of pesticidal contaminants according to NSF/ANSI Standard 53 test requirements. Influent and effluent challenges were taken and analyzed at 303-liter intervals to verify the filtration efficiency of each candle at each stage up to 3030 liters. The final filtration efficiencies are reported in the tables in the following conclusion section.

Test Water Characteristics

Sample Point	Temp. 17.5-22.5 °C	pH 7.00-8.00	TDS 200-500	Turbidity <1 NTU	TOC >1 ppm	Flow Rate (LPM) F1	F2
Start (10L)	19.7	7.1	239	0.4	1.3	0.13	0.13
303 Liters	20.3	7.2	241	0.4	1.3	0.13	0.13
606 Liters	22.1	7.2	247	0.4	1.3	0.13	0.13
909 liters	22.1	7.1	207	0.4	1.3	0.13	0.13
1212 Liters	20.7	7.2	239	0.4	1.3	0.10	0.10
1515 Liters	20.9	7.2	237	0.4	1.3	0.10	0.10
1818 Liters	22.1	7.1	239	0.4	1.3	0.10	0.10
2121 Liters	22.2	7.2	241	0.4	1.3	0.10	0.10
2424 liters	21.7	7.1	239	0.4	1.3	0.10	0.10
2727 Liters	21.9	7.2	243	0.4	1.3	0.10	0.10
3030 liters	22.2	7.2	239	0.4	1.3	0.10	0.10
Average	**21.45**	**1.2**	**237**	**0.4**	**1.3**	**0.11**	**0.11**

Conclusion

The final filtration efficiency for the British Berkefeld Ultra Sterasyl gravity filter elements for pesticidal contaminants during the test is summarized in the following tables.

Filter #1 data Summary

Pesticides Contaminants in ug/L										
Contaminant	Influent Water					Effluent Water				
	Start (10L)	303 liters	606 liters	909 liters	1212 liters	Start (10L)	303 liters	606 liters	909 liters	1212 liters
Alachlor	56.06	44.67	44.07	36.42	42.6	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	37.65	46.29	38.53	51.88	51.86	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	54.44	49.36	49.66	38.35	35.97	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	51.78	43.98	49.23	46.9	45.87	<0.1	<0.1	<0.1	<0.1	<0.1
Propachlor	57.91	49.85	48.4	53.48	63.86	<0.1	<0.1	<0.1	<0.1	<0.1
Molinate	52.64	47.72	52.62	29.07	60.82	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	53.56	40.04	51.75	51.05	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Atrazine	57.14	47.53	52.61	49.99	53.95	<0.1	<0.1	<0.1	<0.1	<0.1
Simazine	58.67	44.91	46.19	52.6	60.62	<0.1	<0.1	<0.1	<0.1	<0.1
Metribuzin	59.68	47.02	53.29	53.92	49.85	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	51.16	51.73	33.24	94.81	54.24	<0.1	<0.1	<0.1	<0.1	<0.1
Metolachlor	57.41	44.59	35.32	95.7	51.17	<0.1	<0.1	<0.1	<0.1	<0.1
Butylate	62.73	45.14	41.76	74.84	52.37	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	55.76	46.81	28.79	86.72	52.6	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	52.61	42.25	28.42	50.46	54.13	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-Chlordane	49.89	48.05	28.77	86.37	52.12	<0.1	<0.1	<0.1	<0.1	<0.1
Butachlore	55.7	45.25	68.98	46.18	50.89	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	46.63	48.68	33.16	69.92	56.12	<0.1	<0.1	<0.1	<0.1	<0.1
Cis-Chlordane	27.94	52.84	43.42	70.91	51.41	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	91.22	51.97	42.24	58.44	48.86	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	56.11	50.48	34.1	93.43	53.81	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	61.73	41.47	44.01	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	46.63	49.2	53.19	64.65	49.51	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	55.21	51.94	63.28	39.67	52.53	<0.1	<0.1	<0.1	<0.1	1.73
Endrin Aldehyde	60.88	21.47	44.4	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	55.21	52.59	66.1	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	63.96	49.22	67.72	49.22	56.02	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	58.42	48.01	62.87	80.25	48.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	62.93	44.13	60.82	96.99	53.73	<0.1	<0.1	<0.1	<0.1	<0.1
Bromacil	35.81	44.77	33.91	28.85	42.97	<0.1	<0.1	<0.1	<0.1	<0.1
Carbofuran	55.04	50.9	63.6	52.89	52.27	2.78	<0.1	<0.1	<0.1	0.66
Chlorneb	58.56	50.03	33.75	90.44	54.55	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorthalonil	68.83	48.98	39.96	88.25	57.34	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpropham	34.69	44.6	40.49	54.83	54.83	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	57.14	49.14	52.07	43.81	51.16	<0.1	<0.1	<0.1	<0.1	<0.1
Cyanizine	56.66	41.01	69.21	50.01	55.94	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	50.58	48.5	39.04	62.42	51.57	<0.1	<0.1	<0.1	<0.1	<0.1
Diphenamid	47.39	41.8	40.6	50.26	51.78	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	43.59	46.18	40.54	133.71	52.35	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	61.16	41.96	32.62	90.66	52.13	<0.1	<0.1	<0.1	<0.1	<0.1
Fenarimol	54.07	42.77	37.58	106.03	52.74	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoridone	57.18	43.33	66.38	370.99	54.71	<0.1	<0.1	<0.1	<0.1	<0.1
Ethoprop	65.36	49.98	56.94	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	65.36	49.98	57.37	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
PCB's	58.52	48.49	33.06	105.14	46.7	<0.1	<0.1	<0.1	<0.1	<0.1

ENVIROTEK LABORATORIES, INC. Test Report
1041 Glassboro Road Suite D-1, Williamstown NJ 08094
PHONE 856-533-0445 www.enviroteklab.com
EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

Pesticides Contaminants in ug/L

Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Alachlor	50.15	71.25	>99.6%	58.08	41.09	23.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.6%
Hexachlorobenzene	58.7	90.18	>99.8%	89.99	50	53.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Hexachlorocyclopentadiene	51.25	47.81	>99.8%	51.27	53.53	50.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Delta-BHC	42.19	47.57	>99.1%	46.15	48.74	11.29	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.1%
Propachlor	52.91	58.68	>99.8%	47.29	46.59	80.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Molinate	57.22	68.19	>99.9%	32.46	49.5	65.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Alpha-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Beta-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Gamma-BHC (Lindane)	37.71	42.72		40.85	43.49	62.48	<0.1	<0.1	<0.1	0.11	0.84	0.31	99.5%
Atrazine	49.59	56.88	>99.9%	65.33	41.07	78.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Simazine	51.78	46.11	>99.8%	71.08	48.19	46.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Metribuzin	47.54	46.94	>99.8%	52.09	43.13	37.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Heptachlor	26.74	48.73	>99.9%	30.15	68.98	72.45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Metolachlor	25.84	47.65	>99.9%	20.63	65.11	69.67	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butylate	22.42	50.87	>99.8%	24.52	53.56	52.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Aldrin	25.52	46.32	>99.9%	25.74	68.37	78.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Heptachlor Epoxide	25.1	41.56	>99.9%	29.69	63.61	76.76	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Trans-Chlordane	26.26	49.01	>99.9%	30.22	70.04	75.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butachlore	26.62	48.52	>99.8%	20.17	66.88	63.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan I	16.92	46.01	>99.8%	53.77	66.37	62.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cis-Chlordane	40.13	44.23	>99.8%	22.6	71.95	46.92	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
p,p'-DDE	34.16	53.45	>99.9%	22.05	68.83	79.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Dieldrin	24.24	44.6	>99.9%	25.49	64.26	73.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endosulfan II	20.97	43.43	>99.9%	21.43	71.66	69.33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDD	34.28	52.53	>99.8%	26.67	94.85	57.79	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endrin Aldehyde	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDT	34.28	53.53	>99.8%	26.67	93.36	57.79	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan Sulfate	41.9	54.02	>99.9%	46.87	58.04	79.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin Ketone	26.7	47.33	>99.8%	28.22	63.41	63.85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Methoxychlor	52.76	76.08	>99.9%	65.81	67.27	98.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Bromacil	26.83	48.68	>99.9%	39.69	67.12	67.98	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Carbofuran	25.75	49.36	>99.8%	23.76	64.66	52.22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorneb	27.43	44.59	>99.9%	56.67	71.94	91.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Chlorthalonil	24.35	44.01	>99.8%	44.45	56.33	55.52	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpropham	69.84	47.02	>99.8%	44.77	51.63	50.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpyriphos	22.11	58.88	>99.8%	23.57	59.91	55.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cyanizine	23.35	47.35	>99.8%	26.41	65.24	51.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Dichlorvos	23.59	46.36	>99.8%	55.23	61.72	63.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Diphenamid	39.29	44.45	>99.9%	75.13	63.37	81.14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Disulfoton	25.77	45.18	93.9%	53.61	71.58	81.36	<0.1	<0.1	<0.1	1.45	3.84	5.05	93.9%
Fenamiphos	27.9	43.41	>99.9%	20.6	69.88	64.77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fenarimol	25.75	48.4	>99.9%	26.92	64.49	70.86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fluoridone	25.04	42.59	>99.8%	25.56	27.42	51.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Ethoprop	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Toxaphene	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
PCB's	27.69	53.33	>99.9%	22.87	67.26	99.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%

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Filter #2 data Summary

Pesticides Contaminants in ug/L										
Contaminant	Influent Water					Effluent Water				
	Start (10L)	303 liters	606 liters	909 liters	1212 liters	Start (10L)	303 liters	606 liters	909 liters	1212 liters
Alachlor	56.06	44.67	44.07	36.42	42.6	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	37.65	46.29	38.53	51.88	51.86	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	54.44	49.36	49.66	38.35	35.97	<0.1	<0.1	<0.1	<0.1	<0.1
Delta-BHC	51.78	43.98	49.23	46.9	45.87	<0.1	<0.1	<0.1	<0.1	<0.1
Propachlor	57.91	49.85	48.4	53.48	63.86	<0.1	<0.1	<0.1	<0.1	<0.1
Molinate	52.64	47.72	52.62	29.07	60.82	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	52.97	40.05	51.68	50.99	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	53.56	40.04	51.75	51.05	40.21	<0.1	<0.1	<0.1	<0.1	<0.1
Atrazine	57.14	47.53	52.61	49.99	53.95	<0.1	<0.1	<0.1	<0.1	<0.1
Simazine	58.67	44.91	46.19	52.6	60.62	<0.1	<0.1	<0.1	<0.1	<0.1
Metribuzin	59.68	47.02	53.29	53.92	49.85	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	51.16	51.73	33.24	94.81	54.24	<0.1	<0.1	<0.1	<0.1	<0.1
Metolachlor	57.41	44.59	35.32	95.7	51.17	<0.1	<0.1	<0.1	<0.1	<0.1
Butylate	62.73	45.14	41.76	74.84	52.37	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	55.76	46.81	28.79	86.72	52.6	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	52.61	42.25	28.42	50.46	54.13	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-Chlordane	49.89	48.05	28.77	86.37	52.12	<0.1	<0.1	<0.1	<0.1	<0.1
Butachlore	55.7	45.25	68.98	46.18	50.89	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	46.63	48.68	33.16	69.92	56.12	<0.1	<0.1	<0.1	<0.1	<0.1
Cis-Chlordane	27.94	52.84	43.42	70.91	51.41	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	91.22	51.97	42.24	58.44	48.86	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	56.11	50.48	34.1	93.43	53.81	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	61.73	41.47	44.01	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	46.63	49.2	53.19	64.65	49.51	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	55.21	51.94	63.28	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	60.88	21.47	44.4	96.84	50.43	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	55.21	52.59	66.1	39.67	52.53	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	63.96	49.22	67.72	49.22	56.02	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	58.42	48.01	62.87	80.25	48.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	62.93	44.13	60.82	96.99	53.73	<0.1	<0.1	<0.1	<0.1	<0.1
Bromacil	35.81	44.77	33.91	28.85	42.97	2.69	<0.1	<0.1	<0.1	<0.1
Carbofuran	55.04	50.9	63.6	52.89	52.27	<0.1	<0.1	<0.1	<0.1	1.19
Chlorneb	58.56	50.03	33.75	90.44	54.55	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorthalonil	68.83	48.98	39.96	88.25	57.34	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpropham	34.69	44.6	40.49	54.83	54.83	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	57.14	49.14	52.07	43.81	51.16	<0.1	<0.1	<0.1	<0.1	<0.1
Cyanizine	56.66	41.01	69.21	50.01	55.94	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	50.58	48.5	39.04	62.42	51.57	<0.1	<0.1	<0.1	<0.1	<0.1
Diphenamid	47.39	41.8	40.6	50.26	51.78	<0.1	<0.1	<0.1	<0.1	<0.1
Disulfoton	43.59	46.18	40.54	133.71	52.35	<0.1	<0.1	<0.1	<0.1	<0.1
Fenamiphos	61.16	41.96	32.62	90.66	52.13	<0.1	<0.1	<0.1	<0.1	<0.1
Fenarimol	54.07	42.77	37.58	106.03	52.74	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoridone	57.18	43.33	66.38	370.99	54.71	<0.1	<0.1	<0.1	<0.1	<0.1
Ethoprop	65.36	49.98	56.94	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	65.36	49.98	57.37	88.09	48.39	<0.1	<0.1	<0.1	<0.1	<0.1
PCB's	58.52	48.49	33.06	105.14	46.7	<0.1	<0.1	<0.1	<0.1	<0.1

ENVIROTEK LABORATORIES, INC. Test Report

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EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

Pesticides Contaminants in ug/L													
Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Alachlor	50.15	71.25	>99.6%	58.08	41.09	23.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.6%
Hexachlorobenzene	58.7	90.18	>99.8%	89.99	50	53.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Hexachlorocyclopentadiene	51.25	47.81	>99.8%	51.27	53.53	50.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Delta-BHC	42.19	47.57	>99.1%	46.15	48.74	11.29	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.1%
Propachlor	52.91	58.68	>99.9%	47.29	46.59	80.84	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Molinate	57.22	68.19	>99.9%	32.46	49.5	65.83	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Alpha-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Beta-BHC	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Gamma-BHC (Lindane)	37.71	42.72	>99.8%	40.85	43.49	62.48	<0.1	<0.1	1.43	0.39	0.72	0.85	>99.8%
Atrazine	49.59	56.88	>99.9%	65.33	41.07	78.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Simazine	51.78	46.11	>99.8%	71.08	48.19	46.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Metribuzin	47.54	46.94	>99.7%	52.09	43.13	37.40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.7%
Heptachlor	26.74	48.73	>99.9%	30.15	68.98	72.45	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Metolachlor	25.84	47.65	>99.9%	20.63	65.11	69.67	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butylate	22.42	50.87	>99.8%	24.52	53.56	52.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Aldrin	25.52	46.32	>99.9%	25.74	68.37	78.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Heptachlor Epoxide	25.1	41.56	>99.9%	29.69	63.61	76.76	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Trans-Chlordane	26.26	49.01	>99.9%	30.22	70.04	75.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Butachlore	26.62	48.52	>99.8%	20.17	66.88	63.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Endosulfan I	16.92	46.01	>99.8%	53.77	66.37	62.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Cis-Chlordane	40.13	44.23	>99.8%	22.6	71.95	46.92	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
p,p'-DDE	34.16	53.45	>99.9%	22.05	68.83	79.55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Dieldrin	24.24	44.6	99.6%	25.49	64.26	73.02	<0.1	<0.1	<0.1	<0.1	<0.1	0.30	99.6%
Endrin	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	>99.9%
Endosulfan II	20.97	43.43	>99.9%	21.43	71.66	69.33	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
p,p'-DDD	34.28	52.53	96.9%	26.67	94.85	57.79	0.52	<0.1	<0.1	<0.1	<0.1	1.80	96.9%
Endrin Aldehyde	25.62	47.13	>99.9%	27.45	67.83	79.71	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	>99.9%
p,p'-DDT	34.28	53.53	96.9%	26.67	93.36	57.79	0.52	<0.1	<0.1	<0.1	<0.1	1.80	96.9%
Endosulfan Sulfate	41.9	54.02	>99.9%	46.87	58.04	79.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Endrin Ketone	26.7	47.33	>99.8%	28.22	63.41	63.85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Methoxychlor	52.76	76.08	>99.9%	65.81	67.27	98.88	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Bromacil	26.83	48.68	>99.9%	39.69	67.12	67.98	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Carbofuran	25.75	49.36	98.8%	23.76	64.66	52.22	0.15	<0.1	<0.1	0.89	0.77	0.61	98.8%
Chlorneb	27.43	44.59	>99.9%	56.67	71.94	91.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Chlorthalonil	24.35	44.01	>99.8%	44.45	56.33	55.52	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpropham	69.84	47.02	>99.8%	44.77	51.63	50.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Chlorpyriphos	22.11	58.88	99.8%	23.57	59.91	55.31	<0.1	<0.1	<0.1	<0.1	0.1	0.1	99.8%
Cyanizine	23.35	47.35	>99.8%	26.41	65.24	51.72	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Dichlorvos	23.59	46.36	>99.8%	55.23	61.72	63.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Diphenamid	39.29	44.45	>99.9%	75.13	63.37	81.14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Disulfoton	25.77	45.18	89.6%	53.61	71.58	81.36	<0.1	<0.1	1.78	9.28	6.51	8.49	89.6%
Fenamiphos	27.9	43.41	>99.9%	20.6	69.88	64.77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Fenarimol	25.75	48.4	>999%	26.92	64.49	70.86	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>999%
Fluoridone	25.04	42.59	>99.8%	25.56	27.42	51.50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.8%
Ethoprop	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
Toxaphene	31.28	41.97	>99.9%	27.05	87.62	86.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%
PCB's	27.69	53.33	>99.9%	22.87	67.26	99.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>99.9%

Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

Jaime Young

Jaime Young
Lab Director

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EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

TEST RESULTS

FOR

Doulton Water Filters

LYMEDALE CROSS, LOWER MILEHOUSE LANE

STAFFORDSHIRE, UK, ST5 9BT

British Berkefeld Ultra Sterasyl Filter Elements

NSF/ANSI Standard 401

Chemical Reduction Tests Results

1041 Glassboro Road Suite D-1, Williamstown NJ 08094
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BRITISH BERKEFELD ULTRA STERASYL WATER TEST REPORT

Report # 21-155
Report Date: 07/22/2021
Customer Name: Doulton Water Filters

Introduction

An accelerated performance test has been conducted on two British Berkefeld Ultra Sterasyl gravity filter elements fitted into a stainless-steel gravity filter housing. Each filter was exposed to test water containing an influent challenge of pharmaceutical contaminants according to NSF/ANSI Standard 401 test requirements. Influent and effluent challenges were taken and analyzed at 303-liter intervals to verify the filtration efficiency of each candle at each stage up to 3030 liters. The final filtration efficiencies are reported in the tables in the following conclusion section.

Test Water Characteristics

Sample Point	Temp. 17.5-22.5 °C	pH 7.00-8.00	TDS 200-500	Turbidity <1 NTU	TOC >1 ppm	Flow Rate (LPM) F1	F2
Start (10L)	19.7	7.1	239	0.4	1.3	0.13	0.13
303 Liters	20.3	7.2	241	0.4	1.3	0.13	0.13
606 Liters	22.1	7.2	247	0.4	1.3	0.13	0.13
909 liters	22.1	7.1	207	0.4	1.3	0.13	0.13
1212 Liters	20.7	7.2	239	0.4	1.3	0.10	0.10
1515 Liters	20.9	7.2	237	0.4	1.3	0.10	0.10
1818 Liters	22.1	7.1	239	0.4	1.3	0.10	0.10
2121 Liters	22.2	7.2	241	0.4	1.3	0.10	0.10
2424 liters	21.7	7.1	239	0.4	1.3	0.10	0.10
2727 Liters	21.9	7.2	243	0.4	1.3	0.10	0.10
3030 liters	22.2	7.2	239	0.4	1.3	0.10	0.10
Average	**21.45**	**1.2**	**237**	**0.4**	**1.3**	**0.11**	**0.11**

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Conclusion

The final filtration efficiency for the British Berkefeld Ultra Sterasyl gravity filter elements for pharmaceutical contaminants during the test is summarized in the following tables.

Filter #1 data Summary

Emerging Contaminants in ng/L										
Contaminant	**Influent Water**					**Effluent Water**				
	Start (10L)	**303 liters**	**606 liters**	**909 liters**	**1212 liters**	**Start (10L)**	**303 liters**	**606 liters**	**909 liters**	**1212 liters**
Triclosan	56.35	40.24	66.65	49.99	58.31	3.17	1.21	<1	<1	<1
Acetaminophen	46.23	40.84	30.49	49.99	55.38	3.46	<1	<1	<1	<1
Trimethoprim	77.08	62.61	59.58	46.38	50.22	5.47	1.21	<1	<1	<1
Ciprofloxacin	57.66	76.94	70.42	45.91	50.52	2.63	<1	<1	<1	<1
Caffeine	46.97	50.14	36.32	49.81	48.32	<1	1.94	<1	1.3	<1
Sulfamethoxazole	57.16	50.69	12.97	50.23	50.30	<1	<1	<1	<1	<1
17-alpha-Ethynylestradiol	53.15	39.90	47.10	49.77	52.15	<1	<1	<1	<1	<1
Estrone	46.63	55.30	50.85	49.84	53.04	<1	<1	<1	<1	<1
17-beta-Estradiol	53.15	54.76	49.54	50.01	49.48	<1	<1	<1	<1	<1
Diclofenac Sodium	50.93	50.99	51.2	49.97	50.92	<1	<1	<1	<1	<1
Naproxen	51.15	23.41	49.56	49.28	37.87	<1	1.64	<1	<1	<1
Primidone	50.33	29.45	50.02	49.9	49.05	<1	<1	<1	<1	<1
Gemfibrozil	48.96	62.5	48.94	48.92	75.78	<1	1.19	1.02	<1	1
Ibuprofen	49.24	44.83	50.54	49.60	98.53	<1	<1	1.34	<1	<1
Testosterone	50.33	52.23	50.37	50.19	37.57	<1	<1	<1	<1	<1
Bisphenol A	50.28	50.71	50.06	49.73	40.91	<1	<1	<1	<1	<1
Progesterone	51.31	49.00	50.03	49.70	50.21	<1	1.12	2.9	<1	<1
Erythromycin	46.15	51.28	49.74	49.41	83.28	<1	<1	1.19	<1	<1
Fluoxetine	50.54	50.34	51.3	49.98	44.16	<1	<1	<1	<1	<1
Carbamazepine	50.15	50.09	49.7	49.99	19.87	<1	1.15	<1	1.03	<1
4-tert-Octylphenol	45.36	49.92	29.74	49.44	70.47	<1	<1	<1	<1	<1
4-para-Nonylphenol	49.51	77.38	63.15	45.60	22.16	<1	6.96	<1	<1	<1

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Emerging Contaminants in ng/L													
Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Triclosan	71.26	49.89	27.69	61.02	49.97	49.9	<1	<1	<1	<1	<1	<1	>98%
Acetaminophen	46.79	49.33	65.63	31.63	49.81	48.99	<1	1.28	<1	<1	<1	<1	>98%
Trimethoprim	60.35	50.05	54.15	46.3	47.89	48.99	<1	<1	<1	<1	<1	<1	>98%
Ciprofloxacin	58.37	47.3	42.58	55.59	48.12	48.22	<1	<1	<1	<1	1.61	<1	>98%
Caffeine	47.75	48.32	57.29	58.28	45.99	47.36	<1	<1	3.3	<1	3.39	<1	>98%
Sulfamethoxazole	52.40	46.64	64.99	60.12	49.69	47.03	<1	<1	<1	<1	2.39	4.33	90.8%
17-alpha-Ethynylestradiol	54.07	45.66	45.27	42.42	48.57	47.64	<1	<1	<1	<1	<1	<1	>98%
Estrone	53.53	49.30	40.10	41.66	49.30	48.21	<1	<1	<1	<1	<1	<1	>98%
17-beta-Estradiol	50.70	50.23	42.49	42.04	48.63	48.76	<1	<1	<1	<1	<1	<1	>98%
Diclofenac Sodium	50.04	49.84	40.98	41.27	46.81	49.37	<1	<1	<1	<1	<1	<1	>98%
Naproxen	37.77	49.86	44.18	43.31	49.52	48.82	<1	<1	<1	<1	<1	<1	>98%
Primidone	51.04	47.03	58.24	56.03	46.81	47.11	<1	<1	<1	<1	<1	1.55	96.7%
Gemfibrozil	76.42	49.07	47.59	45.23	46.16	48.05	2.56	<1	<1	<1	<1	<1	>98%
Ibuprofen	99.18	45.57	50.59	49.18	52.96	45.56	<1	<1	1.48	<1	<1	<1	>98%
Testosterone	35.95	49.62	41.62	42.42	48.32	46.41	<1	<1	<1	<1	<1	<1	>98%
Bisphenol A	29.47	51.19	43.67	43.59	49.88	48.48	<1	<1	<1	<1	<1	<1	>98%
Progesterone	50.12	49.37	34.79	46.53	44.94	47.93	<1	<1	<1	4.42	<1	<1	>98%
Erythromycin	79.34	48.93	40.98	40.82	48.47	47.06	2.17	<1	<1	1.35	3.21	<1	>98%
Fluoxetine	43.81	49.56	42.63	44.21	48.56	45.79	<1	<1	<1	<1	<1	<1	>98%
Carbamazepine	23.69	49.19	41.18	40.44	47.01	48.72	<1	<1	<1	<1	<1	<1	>98%
4-tert-Octylphenol	49.10	49.91	48.84	41.47	48.43	44.78	<1	<1	6.51	<1	<1	1.00	97.8%
4-para-Nonylphenol	20.41	49.26	82.81	51.18	46.80	46.12	<1	<1	<1	<1	<1	<1	>98%

Filter #2 data Summary

Emerging Contaminants in ng/L										
Contaminant	Influent Water					Effluent Water				
	Start (10L)	303 liters	606 liters	909 liters	1212 liters	Start (10L)	303 liters	606 liters	909 liters	1212 liters
Triclosan	56.35	40.24	66.65	49.99	58.31	<1	<1	<1	<1	<1
Acetaminophen	46.23	40.84	30.49	49.99	55.38	<1	<1	<1	<1	<1
Trimethoprim	77.08	62.61	59.58	46.38	50.22	7.65	1.09	<1	<1	<1
Ciprofloxacin	57.66	76.94	70.42	45.91	50.52	<1	<1	<1	<1	<1
Caffeine	46.97	50.14	36.32	49.81	48.32	<1	<1	<1	<1	<1
Sulfamethoxazole	57.16	50.69	12.97	50.23	50.30	<1	<1	<1	<1	<1
17-alpha-Ethynylestradiol	53.15	39.90	47.10	49.77	52.15	<1	<1	<1	<1	<1
Estrone	46.63	55.30	50.85	49.84	53.04	<1	<1	<1	<1	<1
17-beta-Estradiol	53.15	54.76	49.54	50.01	49.48	<1	<1	<1	<1	<1
Diclofenac Sodium	50.93	50.99	51.20	49.97	50.92	<1	<1	<1	<1	<1
Naproxen	51.15	23.41	49.56	49.28	37.87	<1	<1	<1	<1	<1
Primidone	50.33	29.45	50.02	49.9	49.05	<1	<1	<1	<1	<1
Gemfibrozil	48.96	62.5	48.94	48.92	75.78	1.19	<1	2.06	<1	1.4
Ibuprofen	49.24	44.83	50.54	49.60	98.53	<1	<1	13.04	1.04	<1
Testosterone	50.33	52.23	50.37	50.19	37.57	<1	<1	<1	<1	<1
Bisphenol A	50.28	50.71	50.06	49.73	40.91	<1	<1	<1	<1	<1
Progesterone	51.31	49.00	50.03	49.70	50.21	<1	<1	1.9	<1	<1
Erythromycin	46.15	51.28	49.74	49.41	83.28	<1	3.66	1.55	<1	<1
Fluoxetine	50.54	50.34	51.30	49.98	44.16	<1	<1	<1	<1	<1
Carbamazepine	50.15	50.09	49.70	49.99	19.87	<1	4.93	3.33	<1	<1
4-tert-Octylphenol	45.36	49.92	29.74	49.44	70.47	<1	<1	<1	<1	<1
4-para-Nonylphenol	49.51	77.38	63.15	45.6	22.16	<1	1.27	<1	<1	1.46

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Emerging Contaminants in ng/L													
Contaminant	Influent Water						Effluent Water						% Efficiency at 3030 liters
	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	1515 liters	1818 liters	2121 liters	2424 liters	2727 liters	3030 liters	
Triclosan	71.26	49.89	27.69	61.02	49.97	49.9	<1	<1	<1	<1	<1	<1	>98%
Acetaminophen	46.79	49.33	65.63	31.63	49.81	48.99	<1	<1	<1	<1	<1	<1	>98%
Trimethoprim	60.35	50.05	54.15	46.3	47.89	48.99	<1	<1	<1	<1	<1	<1	>98%
Ciprofloxacin	58.37	47.30	42.58	55.59	48.12	48.22	<1	<1	<1	<1	7.65	<1	>98%
Caffeine	47.75	48.32	57.29	58.28	45.99	47.36	<1	<1	<1	<1	<1	<1	>98%
Sulfamethoxazole	52.40	46.64	64.99	60.12	49.69	47.03	<1	<1	<1	<1	<1	<1	>98%
17-alpha-Ethynylestradiol	54.07	45.66	45.27	42.42	48.57	47.64	<1	<1	<1	<1	<1	2.97	93.8%
Estrone	53.53	49.30	40.10	41.66	49.30	48.21	<1	<1	<1	<1	<1	<1	>98%
17-beta-Estradiol	50.70	50.23	42.49	42.04	48.63	48.76	<1	<1	<1	<1	<1	<1	>98%
Diclofenac Sodium	50.04	49.84	40.98	41.27	46.81	49.37	<1	<1	<1	<1	<1	<1	>98%
Naproxen	37.77	49.86	44.18	43.31	49.52	48.82	<1	<1	<1	<1	<1	<1	>98%
Primidone	51.04	47.03	58.24	56.03	46.81	47.11	<1	<1	<1	<1	2.27	3.04	93.5%
Gemfibrozil	76.42	49.07	47.59	45.23	46.16	48.05	<1	<1	<1	<1	<1	<1	>98%
Ibuprofen	99.18	45.57	50.59	49.18	52.96	45.56	<1	<1	<1	<1	<1	<1	>98%
Testosterone	35.95	49.62	41.62	42.42	48.32	46.41	<1	<1	<1	<1	<1	<1	>98%
Bisphenol A	29.47	51.19	43.67	43.59	49.88	48.48	<1	<1	<1	<1	<1	<1	>98%
Progesterone	50.12	49.37	34.79	46.53	44.94	47.93	<1	<1	<1	<1	<1	<1	>98%
Erythromycin	79.34	48.93	40.98	40.82	48.47	47.06	2.49	<1	<1	<1	<1	<1	>98%
Fluoxetine	43.81	49.56	42.63	44.21	48.56	45.79	<1	<1	<1	<1	<1	1.61	96.5%
Carbamazepine	23.69	49.19	41.18	40.44	47.01	48.72	<1	<1	<1	<1	<1	<1	>98%
4-tert-Octylphenol	49.10	49.91	48.84	41.47	48.43	44.78	<1	<1	<1	<1	<1	<1	>98%
4-para-Nonylphenol	20.41	49.26	82.81	51.18	46.8	46.12	<1	<1	<1	<1	<1	<1	>98%

Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

Jaime Young
Jaime Young
Lab Director

QFT LABORATORY, LLC. Test Report

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IAPMO ID# 000102

Send To:

Joy Delaney

Staffordshire, UK

Result: Passed Date: 08/09/2022

Customer Name: Doulton Water Filters

Tested To: Standard PFAS Reduction PT 200%

Trade Designation/Model Number: Ultra Sterasyl

Test Type: Qualification

Project Manager: Jaime Young

Thank you for having your product tested by QFT Laboratory, LLC.
Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization *Jaime A. Young* Date: 08/09/2022
Jaime A. Young
Lab Director

QFT LABORATORY, LLC.
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IAPMO ID# 000102

Standard 53 PFAS Reduction PT 200%: Passed

Manufacturer's Name: Doulton Water Filters

Sample Type: Qualification

Product: Plumbed in

Flow Rate: 0.3 lpm

Filter Capacity: 3000 liters

Cycle: as per manufacture's pattern

Conditioning Procedure: Follow manufacturer instructions

Physical Description of Sample: Gravity Candles fitted into SS Gravity Housing

Performance Indicator Device: No, Test to 3000 liters

Test Description: NSF 53 PFAS Reduction Testing

Trade Designation/Model Number: Ultra Sterasyl

Unit Volume: 1 L

Performance Standard: NSF 53 – 2021

Pass/Fail Criteria (PFOA+PFOS Combined Maximum Product Water Concentration)**:** 0.07 µg/L

Water Characteristics

Sample Point	pH (7.5±0.5)	Temperature (20±2.5°C)	Turbidity (<1 NTU)	TDS (200-500) mg/L	TOC (1.0-2.0) mg/L
Start	7.55	20.5	0.45	310	1.3
150	7.51	20.3	0.42	312	1.3
300	7.53	20.5	0.45	309	1.3
450	7.52	20.5	0.44	310	1.4
600	7.49	20.4	0.41	315	1.4
750	7.43	20.5	0.45	317	1.3
900	7.51	20.3	0.42	315	1.3
1050	7.52	20.2	0.41	317	1.3
1200	7.53	20.1	0.42	316	1.3
1350	7.51	20.2	0.41	315	1.3
1500	7.52	20.1	0.42	317	1.4
1650	7.53	20.3	0.41	316	1.3
1800	7.51	20.2	0.41	317	1.3
1950	7.52	20.3	0.43	315	1.3
2100	7.53	20.1	0.44	316	1.3
2250	7.52	20.2	0.45	314	1.3
2400	7.51	20.3	0.42	312	1.3
2550	7.53	20.2	0.46	310	1.3
2700	7.51	20.4	0.43	312	1.3
2850	7.52	20.2	0.42	314	1.3
3000	7.53	20.1	0.41	312	1.3
Average	**7.52**	**20.3**	**0.43**	**314**	**1.3**

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IAPMO ID# 000102

PFOA Filter #1 Data Summary Table

Accumulated Volume (Liters)	Challenge PFOA	Filter 1 PFOA
Start	0.50	0.01
150	0.57	0.01
300	0.52	0.01
450	0.51	0.01
600	0.50	0.02
750	0.46	0.03
900	0.48	0.01
1050	0.43	0.03
1200	0.55	0.03
1350	0.45	0.03
1500	0.54	0.02
1650	0.46	0.02
1800	0.51	0.03
1950	0.45	0.03
2100	0.52	0.03
2250	0.49	0.03
2400	0.44	0.01
2550	0.53	0.03
2700	0.50	0.03
2850	0.50	0.04
3000	0.49	0.05

PFOA Reporting Limit: 0.01 µg/L

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PFOS Filter #1 Data Summary Table

Accumulated Volume (Liters)	Challenge PFOS	Filter 1 PFOS
Start	1.12	<0.01
150	0.98	<0.01
300	0.96	<0.01
450	0.95	<0.01
600	0.95	<0.01
750	0.99	<0.01
900	1.11	<0.01
1050	0.99	0.01
1200	0.98	0.01
1350	0.99	0.02
1500	0.98	0.01
1650	1.02	0.01
1800	0.92	0.01
1950	0.96	0.01
2100	1.11	0.01
2250	0.96	0.01
2400	0.90	0.01
2550	1.01	0.02
2700	1.06	0.02
2850	0.92	0.02
3000	1.00	0.02

PFOS Reporting Limit: 0.01 µg/L

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PFOA Filter #2 Data Summary Table

Accumulated Volume (Liters)	Challenge PFOA	Filter 2 PFOA
Start	0.50	0.01
150	0.57	0.01
300	0.52	0.01
450	0.51	0.01
600	0.50	0.01
750	0.46	0.02
900	0.48	0.01
1050	0.43	0.02
1200	0.55	0.03
1350	0.45	0.02
1500	0.54	0.03
1650	0.46	0.03
1800	0.51	0.03
1950	0.45	0.03
2100	0.52	0.04
2250	0.49	0.04
2400	0.44	0.03
2550	0.53	0.03
2700	0.50	0.03
2850	0.50	0.04
3000	0.49	0.05

PFOA Reporting Limit: 0.01 µg/L

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PFOS Filter #2 Data Summary Table

Accumulated Volume (Liters)	Challenge PFOS	Filter 2 PFOS
Start	1.12	<0.01
150	0.98	<0.01
300	0.96	<0.01
450	0.95	<0.01
600	0.95	<0.01
750	0.99	<0.01
900	1.11	<0.01
1050	0.99	0.01
1200	0.98	0.01
1350	0.99	0.03
1500	0.98	0.01
1650	1.02	0.01
1800	0.92	0.01
1950	0.96	0.01
2100	1.11	0.01
2250	0.96	0.01
2400	0.90	0.02
2550	1.01	0.01
2700	1.06	0.02
2850	0.92	0.02
3000	1.00	0.02

PFOS Reporting Limit: 0.01 µg/L

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PFOA & PFOS Data Summary Filter 1

Accumulated Volume (Liters)	Challenge PFOA+PFOS	Filter 1 PFOA+PFOS	Passing Criteria
Start	1.62	0.01	Passed
150	1.55	0.01	Passed
300	1.48	0.01	Passed
450	1.46	0.01	Passed
600	1.45	0.02	Passed
750	1.45	0.03	Passed
900	1.59	0.01	Passed
1050	1.42	0.04	Passed
1200	1.53	0.04	Passed
1350	1.44	0.05	Passed
1500	1.52	0.03	Passed
1650	1.48	0.03	Passed
1800	1.43	0.04	Passed
1950	1.51	0.04	Passed
2100	1.63	0.04	Passed
2250	1.45	0.04	Passed
2400	1.34	0.02	Passed
2550	1.54	0.05	Passed
2700	1.56	0.05	Passed
2850	1.42	0.06	Passed
3000	1.49	0.07	Passed

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PFOA & PFOS Data Summary Filter 2

Accumulated Volume (Liters)	Challenge PFOA+PFOS	Filter 2 PFOA+PFOS	Passing Criteria
Start	1.62	0.01	Passed
150	1.55	0.01	Passed
300	1.48	0.01	Passed
450	1.46	0.01	Passed
600	1.45	0.01	Passed
750	1.45	0.02	Passed
900	1.59	0.01	Passed
1050	1.42	0.03	Passed
1200	1.53	0.04	Passed
1350	1.44	0.05	Passed
1500	1.52	0.04	Passed
1650	1.48	0.04	Passed
1800	1.43	0.04	Passed
1950	1.51	0.04	Passed
2100	1.63	0.05	Passed
2250	1.45	0.05	Passed
2400	1.34	0.05	Passed
2550	1.54	0.04	Passed
2700	1.56	0.05	Passed
2850	1.42	0.06	Passed
3000	1.49	0.07	Passed

Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

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8th July 2011

Analytical Report – Client project 2011/3

Objective

ALcontrol Laboratories were asked to perform a study to assess the performance capability of a Doulton Sterasyl candle to remove *E.coli* from a contaminated water supply. The filters tested were supplied by Fairey Industrial Ceramics (FICL). The Doulton Sterasyl candle tested was selected by ALcontrol from 3 filters taken from FICL stock.

Protocol

A test rig was supplied by FICL for the study, which is fitted with a pump, time switches, rotameters, filter housings and a reservoir tank. The filters were fitted into filter housings on the test rig and the reservoir on the rig was filled with dechlorinated mains water maintained at 20°C +/- 2°C and approximately 2mg/l TOC. The turbidity of the mains water was also monitored during testing. When the required water conditions were achieved, the water was spiked with *E.coli* at a minimum concentration of 1 x 10^6 cfu/100mls using vitroid™ organisms supplied by RTC. Once prepared, the challenge water was pumped through the filters in parallel at a rate of 2 l/min, using a cycle of 3 minutes on and 12 minutes off throughout the day (equivalent to the passage of 50 litres through each candle on days 1-4 and 100 litres each on day 5).

Samples of water post filtration were collected from the waste water streams from each filter daily. One sample of challenge water was also collected simultaneously from a sample point immediately upstream of the filter candles rather than the tank. Each sample was collected aseptically into a sterile container containing an appropriate volume of Chambers Neutraliser Solution*.

The samples were analysed to enumerate the challenge organism using the membrane filtration technique ref BP50.15 and reported to FICL as soon as they became available. The comparative study was terminated as soon as breakthrough was achieved which came after 400 litres was passed through the candle.

Turbidity measurements were recorded as 0.41 NTU.

Results

The daily influent challenges and *E-coli* counts are shown in Table 1 and the *E.coli* filtration efficiency and log reduction of the Doulton Sterasyl filter candle are tabulated in Table 2.

Table 1

	Influent (cfu/100ml)	FICL Effluent (cfu/100ml)
Day 1	1800000	<1
Day 2	1000000	<1
Day 3	4200000	<1
Day 4	2000000	<1
Day 5	5400000	<1
Day 6	3800000	6

Table 2

	FICL % Filtration Efficiency	FICL Log Reduction
Day 1	>99.99994	>6.25
Day 2	>99.9999	>6.0
Day 3	>99.99997	>6.62
Day 4	>99.99995	>6.3
Day 5	>99.99998	>6.73
Day 6	99.9998	5.8

Discussion

The FICL manufactured Doulton Sterasyl filter candle achieved at least 5 log removal throughout the 6 day test run (equivalent to 400 Litres of filtration).

Reference

*Chambers Neutraliser Solution (5% sodium thiosulphate, 7.3% sodium thioglycollate in 100mls water, to be added as 1ml/100ml in sample treated)

Approved by:

Richard Shepherd – Technical Manager, ALcontrol Laboratories UK

8th July 2011