LARQ

LARQ Bottle Filtered Filtration Performance

Performance Summary

Our LARQ Bottle Filters are independently tested to NSF/ANSI 42, 53 & 401 standards to be effective against a wide range of pollutants.

	LARQ Bottle Filtered
Contaminants Filtered	**Average Removal Rate**
Lead pH=6.5 (NSF/ANSI 53)	98.9%
Lead pH=8.5 (NSF/ANSI 53)	>99.9%
Chlorine (NSF/ANSI 42)	99.5%
HAA5 - Monochloroacetic acid (NSF/ANSI 53)	99.8%
HAA5 - Monobromoacetic acid (NSF/ANSI 53)	99.8%
HAA5 - Dichloroacetic acid (NSF/ANSI 53)	99.8%
HAA5 - Trichloroacetic acid (NSF/ANSI 53)	99.7%
HAA5 - Bromochloroacetic acid (NSF/ANSI 53)	99.8%
PFOA (NSF/ANSI 53)	97%
PFOS (NSF/ANSI 53)	98.9%
Atenolol (NSF/ANSI 401)	99.5%
DEET (NSF/ANSI 401)	99.5%
Meprobamate (NSF/ANSI 401)	99.7%
Linuron (NSF/ANSI 401)	99.4%
Carbamazepine (NSF/ANSI 401)	99.2%
Metolachlor (NSF/ANSI 401)	99.3%
Trimethoprim (NSF/ANSI 401)	99.3%
TCEP (NSF/ANSI 401)	99.8%
TCPP (NSF/ANSI 401)	99.7%
Phenytoin (NSF/ANSI 401)	99.3%
Estrone (NSF/ANSI 401)	99.4%
Ibuprofen (NSF/ANSI 401)	97.9%
Bisphenol A (NSF/ANSI 401)	99.5%
Naproxen (NSF/ANSI 401)	99.5%
Nonylphenol (NSF/ANSI 401)	99.3%

LARQ

Third-party Lab Reports

LARQ Bottle Filter

(MA: 202019005395

Test No.SZ202 13468

Client: LARQ, Inc., 950 Tower Lane, STE 2100, Foster City, CA 94404

Test Number: No. SZ20213468

Study: Efficacy of LARQ Bottle Filter against Lead (pH6.5)

Date Received: Sep 22, 2021

Date Analyzed: Oct 18, 2021

Certificate of Analysis

Background:

The objective of this experiment was to test the efficacy of LARQ's Bottle Filter at removing lead based on NSF/ANSI53-2019 (Drinking Water Treatment Units - Health Effects) and GB/T 5750-2006 (Standard examination methods for drinking water) testing guidelines. LARQ provided 2 Bottle Filters for testing. For this study, the lead concentration was 0.15mg/L ±10%. The challenge water was passed through the Bottle Filter at a rate of 0.70-0.75 L/min. Each sample was taken at 0%, 20%. 40%, 60%, 80%, and 100% of the estimated filter life, ending at a net total of 250 liters of water filtered through.

Materials and methods:

Name of Sample	LARQ Bottle Filter	Source of Sample	Delivery
Applicant	LARQ, Inc.	Client	LARQ, Inc.
Producing Company	QJL NEW NATERIAL CO. LTD	Trademark	LARQ
Date and Batch Number of Production	20210821	Character of Sample	Solid filter
Quantity of Sample	2	Type and specification	BFRF050A
Items of Analysis	Efficacy of LARQ Bottle Filter Against Lead (pH=6.5)		
Testing standard	NSF/ANSI53-2019 (Drinking Water Treatment Units - Health Effects) and GB/T 5750-2006 (Standard examination methods for drinking water)		
Remarks	The test plan is as follows: 1. The challenge water was adjusted to pH 6.5 with the lead concentration at 0.15 mg/L ±I0%. 2. Sampling test at 0%, 20%, 40%, 60%, 80%, and 100% of the rated filter life, The testflow rate was 0.7-0.75 L/min, and ending at a net total of 250 L of water filtered through.		

Results:

Water yield (L)	Before filtration (mg/L)	After filtration (mg/L)		Removal rate (%)	
		Sample 1	Sample 2	Sample 1	Sample 2
0	0.141	0.00154	0.00255	98.9	98.2
50	0.137	0.00159	0.00250	98.8	98.2
100	0.140	0.00114	0.00167	99.2	98.8
150	0.144	0.00130	0.00195	99.1	98.6
200	0.142	0.00142	0.00204	99.0	98.6
250	0.142	0.00152	0.00241	98.9	98.3

(MA: 202019005395

Test No. SZ20213469

Client: LARQ, Inc., 950 Tower Lane, STE 2100, Foster City, CA 94404

Test Number: No. SZ20213469

Study: Efficacy of LARQ Bottle Filter against Lead (pH8.5)

Date Received: Sep 22, 2021

Date Analyzed: Oct 11, 2021

Certificate of Analysis

Background:

The objective of this experiment was to test the efficacy of LARQ's Bottle Filter at removing lead based on NSF/ANSI53-2019 (Drinking Water Treatment Units - Health Effects) and GB/T 5750-2006 (Standard examination methods for drinking water) testing guidelines. LARQ provided 2 Bottle Filters for testing. For this study, the lead concentration was 0.15mg/L ±10%. The challenge water was passed through the Bottle Filter at a rate of 0.70-0.75 L/min. Each sample was taken at 0%, 20%, 40%, 60%, 80%, and 100% of the estimated filter life, ending at a net total of 250 liters of water filtered through.

Materials and methods:

Name of Sample	LARQ Bottle Filter	Source of Sample	Delivery
Applicant	LARQ, Inc.	Client	LARQ, Inc.
Producing Company	QJL NEW NATERIAL CO. LTD	Trademark	LARQ
Date and Batch Number of Production	20210821	Character of Sample	Solid filter
Quantity of Sample	2	Type and specification	BFRF050A
Items of Analysis	Efficacy of LARQ Bottle Filter Against Lead (pH=8.5)		
Testing standard	NSF/ANSI53-2019 (Drinking Water Treatment Units - Health Effects) and GB/T 5750-2006 (Standard examination methods for drinking water)		
Remarks	The test plan is as follows: 1. The challenge water was adjusted to pH 8.5 with the lead concentration at 0.15 mg/L± I0%. 2. Sampling test at 0%, 20%, 40%, 60%, 80%, and 100% of the rated filter life, The test flow rate was 0.7-0.75 L/min, and ending at a net total of 250 L of water filtered through.		

Results:

Water yield (L)	Before filtration (mg/L)	After filtration (mg/L)		Removal rate (%)	
		Sample 1	Sample 2	Sample 1	Sample 2
0	0.141	0.00164	<0.00007	98.8	>99.9
50	0.150	0.00181	0.00043	98.8	99.7
100	0.152	0.00196	0.00058	98.7	99.6
150	0.147	0.00307	0.00039	97.9	99.7
200	0.143	0.00286	<0.00007	98.0	>99.9
250	0.144	0.00218	0.00009	98.5	99.9

(MA: 202019005395

Test No. SZ20213470

Client: LARQ, Inc., 950 Tower Lane, STE 2100, Foster City, CA 94404

Test Number: No. SZ20213470

Study: Efficacy of LARQ Bottle Filter against Chlorine

Date Received: Sep 22, 2021

Date Analyzed: Sep 23, 2021

Certificate of Analysis

Background:

The objective of this experiment was to test the efficacy of LARQ's Bottle Filter at removing chlorine based on NSF/ANSI42-2015 (Drinking Water Treatment Units – Aesthetic Effects) and GB/T 5750-2006 (Standard examination methods for drinking water) testing guidelines. LARQ provided 2 Bottle Filters for testing. For this study, the chlorine concentration was 2.0 mg/L ±10%. The challenge water was passed through the Bottle Filter at a rate of 0.70-0.75 L/min. Each sample was taken at 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% of the estimated filter life, ending at a net total of 250 liters of water filtered through.

Materials and methods:

Name of Sample	LARQ Bottle Filter	Source of Sample	Delivery
Applicant	LARQ, Inc.	Client	LARQ, Inc.
Producing Company	QJL NEW NATERIAL CO. LTD	Trademark	LARQ
Date and Batch Number of Production	20210821	Character of Sample	Solid filter
Quantity of Sample	2	Type and specification	BFRF050A
Items of Analysis	Efficacy of LARQ Bottle Filter Against Chlorine		
Testing standard	NSF/ANSI42-2015 (Drinking Water Treatment Units - Aesthetic Effects) and GB/T 5750-2006 (Standard examination methods for drinking water)		
Remarks	The test plan is as follows: 1. The challenge water chlorine concentration was adjusted to 2.0 mg/L± I0%. 2. Sampling test at 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% of the rated filter life. The test flow rate was 0.7-0.75 L/min, and ending at a net total of 250 L of water filtered through.		

Results:

Water yield (L)	Before filtration (mg/L)	After filtration (mg/L)		Removal rate (%)	
		Sample 1	Sample 2	Sample 1	Sample 2
0	2.15	<0.01	0.01	>99.5	99.5
25	1.97	0.01	0.04	99.5	98.0
50	2.15	0.03	0.06	98.6	97.2
75	2.07	0.04	0.07	98.1	96.6
100	2.13	0.04	0.07	98.1	96.7
125	2.11	0.04	0.07	98.1	96.7
150	2.09	0.03	0.07	98.6	96.7
175	2.13	0.04	0.07	98.1	96.7
200	2.19	0.05	0.08	97.7	96.3
225	2.13	0.04	0.07	98.1	96.7
250	2.07	0.03	0.06	98.6	97.1

ENVIROTEK LABORATORY, LLC.

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

Send To:

Justin Wang

LARQ

Result: Passed Date: 11/29/2021

Company Name: LARQ

Tested To: NSF/ANSI Std. 53 – Haloacetic Acids Reduction Testing

Description: Sport Bottle

Test Type: R&D testing

Project Manager: Jaime Young

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

Report Authorization *Jaime A. Young* Date: 11/29/2021

Jaime A. Young
Lab Director

ENVIROTEK LABORATORY, LLC.
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NSF/ANSI Std. 53 – Haloacetic Acids Reduction Testing: Passed

Company's Name: LARQ

Sample Type: R&D testing

Product: Sport Bottle Filter

Flow Rate: 800 ml/min

Filter Capacity: 200 Liters

Conditioning Procedure: Flush for 1 liter

Cycle: 30 Seconds on 60 seconds off

Physical Description of Sample: Mouth Drawn

Performance Indicator Device: No, test to 100% Capacity

Test Description: NSF/ANSI Std. 53 – Haloacetic Acids Reduction Testing

Trade Designation/Model Number: sport bottle Filter

Unit Volume: 0.01 L

Performance Standard: NSF/ANSI Std 600 – 2020

Pass/Fail Criteria (Maximum Product Water Concentration)**:**

Monochloroacetic acid: 6 µg/L *Monobromoacetic acid: 6 µg/L*

Dichloroacetic acid: 0.7 µg/L *Bromochloroacetic acid: 6 µg/L*

Trichloroacetic acid: 6 µg/L

As per NSF/ANSI Std 600/EPA primary drinking water standard

Decision Rule: Simple Acceptance based on the NSF/ANSI/EPA drinking water limits

Water Characteristics Filter 1

Sample Point	pH (7.5±0.5)	Temperature (20±3ºC)	TDS (200 to 500 mg/L)	TOC (≥1.0 mg/L)	Turbidity (<1 NTU)
Start	7.68	18.9	256	1.2	0.44
25%	7.71	19.3	281	1.2	0.45
50%	7.63	18.9	258	1.1	0.48
75%	7.81	19.4	299	1.3	0.45
100%	7.62	19.3	301	1.2	0.41
Average	**7.69**	**19.16**	**279**	**1.2**	**0.45**

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Filter Data Summary Tables

Monochloroacteic Acid			
Accumulated Volume(L)	**Influent Concentration µg/L**	**Effluent Concentration µg/L**	**Pass/Failed**
10 UV	90.4	<0.1	Pass
50 Liters	67.8	<0.1	Pass
100 liters	79.9	<0.1	Pass
150 liters	72	<0.1	Pass
200 liters	73.5	<0.1	Pass

Bromochloroacetic Acid			
Accumulated Volume(L)	**Influent Concentration µg/L**	**Effluent Concentration µg/L**	**Pass/Failed**
10 UV	64.9	0.4	Pass
50 Liters	57.9	0.4	Pass
100 liters	57.8	0.4	Pass
150 liters	60.7	0.2	Pass
200 liters	60.3	0.2	Pass

Monobromoacteic Acid			
Accumulated Volume(L)	**Influent Concentration µg/L**	**Effluent Concentration µg/L**	**Pass/Failed**
10 UV	73.7	<0.1	Pass
50 Liters	65.5	<0.1	Pass
100 liters	65.1	<0.1	Pass
150 liters	65.5	<0.1	Pass
200 liters	67.6	<0.1	Pass

Trichloroacetic Acid			
Accumulated Volume(L)	**Influent Concentration µg/L**	**Effluent Concentration µg/L**	**Pass/Failed**
10 UV	58.2	<0.1	Pass
50 Liters	56.4	<0.1	Pass
100 liters	55.9	<0.1	Pass
150 liters	58.9	<0.1	Pass
200 liters	58.8	<0.1	Pass

Dichloroacetic Acid			
Accumulated Volume(L)	**Influent Concentration µg/L**	**Effluent Concentration µg/L**	**Pass/Failed**
10 UV	67.2	<0.1	Pass
50 Liters	61.1	<0.1	Pass
100 liters	61.4	<0.1	Pass
150 liters	65.2	<0.1	Pass
200 liters	63.9	<0.1	Pass

Haloacetic acids minimum reporting limit 0.1 µg/L

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Filter System Tested

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

Jaime A. Young
Jaime A. Young
Lab Director

QFT LABORATORY, LLC. Test Report

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

Send To:

Justin Wang

LARQ

Result: Passed Date: 11/29/2021

Customer Name: LARQ

Tested To: NSF/ANSI Standard 53- PFAS Reduction

Description: Sport Bottle

Test Type: R&D Testing

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: 11/29/2021

Jaime A. Young
Lab Director

QFT LABORATORY, LLC.
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EPA ID # NJ01298 IAPMO ID# 000102 NJDEP ID # 08021 ANAB Cert ID AT-2866

NSF/ANSI Standard 53 PFAS Reduction PT 100%: Passed

Manufacturer's Name: LARQ

Sample Type: R&D Testing

Product: Sport Bottle Filter

Flow Rate: 800 mL/min

Filter Capacity: 200 Liters

Conditioning Procedure: Flush for 1 minute.

Cycle: 30 second on; 60 seconds off

Physical Description of Sample: Mouth Drawn

Performance Indicator Device: No, test to 100% Capacity

Test Description: Modified NSF/ANSI STD 53 – 2020 PFOA/PFOS

Trade Designation/Model Number: Sport Bottle Filter

Unit Volume: 0.01 L

Performance Standard: Modified NSF/ANSI STD 53 – 2020 PFOA/PFOS

Pass/Fail Criteria: ≤ 0.07 µg/L

Decision Rule: Pass/Fail based on simple acceptance of the analytical results above the NSF/ANSI Std limit

Water Characteristics

Sample Point	pH (7.5±0.5)	Temperature (20±2.5°C)	Turbidity (<1 NTU)	TOC (>1 mg/L)	TDS (200-500)
Start	7.62	18.9	0.41	1.2	258
25%	7.52	19.1	0.42	1.2	271
50%	7.31	18.9	0.44	1.3	298
75%	7.48	19.1	0.45	1.2	280
100%	7.62	19.3	0.43	1.3	299
Average	**7.51**	**19.1**	**0.43**	**1.2**	**281**

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PFOA Filter Data Summary Table

Sample Point	Accumulated Volume	Influent 1 PFOA (µg/L)	Effluent A PFOA Concentration (µg/L)
Start	10 UV	0.47	<0.01
25%	50 Liters	0.29	<0.01
50%	100 liters	0.44	0.02
75%	150 liters	0.46	<0.01
100%	200 liters	0.41	<0.01

PFOA Reporting Limit: 0.01 µg/L

PFOS Filter Data Summary Table

Sample Point	Accumulated Volume	Influent 1 PFOS (µg/L)	Effluent 1 PFOS Concentration (µg/L)
Start	10 UV	1.06	<0.01
25%	50 Liters	0.77	<0.01
50%	100 liters	0.95	<0.01
75%	150 liters	0.96	<0.01
100%	200 liters	1.02	<0.01

PFOS Reporting Limit: 0.01 µg/L

PFOA & PFOS Data Summary Filter

Sample Point	Accumulated Volume	Influent 1 Total PFOA + PFOS Concentration (µg/L)	Effluent 1 Total PFOA + PFOS Concentration (µg/L)	Passing Criteria
Start	10 UV	1.53	<0.01	**Pass**
25%	50 Liters	1.06	<0.01	**Pass**
50%	100 liters	1.39	0.02	**Pass**
75%	150 liters	1.42	<0.01	**Pass**
100%	200 liters	1.43	<0.01	**Pass**

Filter System Tested

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

Jaime A. Young
Jaime A. Young
Lab Director

QFT LABORATORY, LLC. Test Report

1041 Glassboro Road Suite D-1, Williamstown NJ 08094
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EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

Send To:

Justin Wang

LARQ

Result: Passed Date: 11/29/2021

Customer Name: LARQ.

Tested To: NSF/ANSI Std 401 Section 7, Group 1

Description: Sport Bottle Filter

Test Type: R&D Testing

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: 11/29/2021

Jaime A. Young
Lab Director

QFT LABORATORY, LLC.
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PHONE 856-583-0445 www.enviroteklab.com
EPA ID # NJ01298 IAPMO ID# 000102 ANAB Cert ID AT-2866

Standard 401 Emerging Compounds Group 1 Reduction PT 100%: Passed

Manufacturer's Name: LARQ

Sample Type: R&D Testing

Product Type: Sport Bottle Filter

Flow Rate: 800 ml/min

Filter Capacity: 200 Liters

Conditioning Procedure: Flush for 1 liter

Cycle: 30 Seconds on 60 seconds off

Physical Description of Sample: Mouth Drawn

Performance Indicator Device: No, test to 100% of Capacity

Test Description: NSF/ANSI Std 401 Section 7, Group 1– Emerging Compound Reduction Testing Group 1

Trade Designation/Model Number: Sport Bottle Filter

Unit Volume: 0.01 L

Performance Standard: NSF/ANSI Std 401 Section 7 – 2020

Pass/Fail Criteria (Emerging Compound Maximum Product Water Concentration)**:**

Atenolol Passing criteria: 30 ng/L; **Carbamazepine** Passing criteria: 200 ng/L

DEET passing criteria: 200 ng/L; **Metolachlor** passing criteria: 200 ng/L

Meprobamate passing criteria: 60 ng/L; **Trimethoprim** passing criteria: 20 ng/L

Linuron passing criteria: 20 ng/L

Decision Rule: Pass/Fail based on simple acceptance of the analytical results above the NSF/ANSI Std limit

Water Characteristics

Sample Point	pH (7.5±0.5)	Temperature (20±3ºC)	TDS (200 to 500 mg/L)	Turbidity (<1 NTU)	TOC (>1 mg/L)
Start	7.89	18.9	288	0.42	1.3
25%	7.72	19.3	298	0.42	1.3
50%	7.31	19.2	310	0.44	1.2
75%	7.48	19.1	288	0.45	1.2
100%	7.61	19.3	320	0.48	1.3
Average	**7.60**	**19.16**	**301**	**0.44**	**1.3**

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Trimethoprim Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Trimethoprim (112-168 ng/L)	Effluent 1 Trimethoprim (ng/L)	Passed/Failed ≤20 ng/L
Start	10 UV	146	<1	Pass
25%	50 Liters	148	<1	Pass
50%	100 liters	137	<1	Pass
75%	150 liters	160	<1	Pass
100%	200 liters	150	<1	Pass

Trimethoprim Reporting Limit: 1 ng/L

Carbamazepine Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Carbamazepine (1120-1680 ng/L)	Effluent 1 Concentration (ng/L)	Passed/Failed ≤200 ng/L
Start	10 UV	1349	<10	Pass
25%	50 Liters	1320	61	Pass
50%	100 liters	1285	79	Pass
75%	150 liters	1112	60	Pass
100%	200 liters	1374	18	Pass

Carbamazepine Reporting Limit: 10 ng/L

Atenolol Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Atenolol (160-240 ng/L)	Effluent 1 Atenolol (ng/L)	Passed/Failed ≤30 ng/L
Start	10 UV	220	<1	Pass
25%	50 Liters	215	<1	Pass
50%	100 liters	200	<1	Pass
75%	150 liters	218	<1	Pass
100%	200 liters	232	1	Pass

Atenolol Detecting Limit: 1 ng/L

Meprobamate Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Meprobamate (320-480 ng/L)	Effluent 1 Meprobamate (ng/L)	Passed/Failed ≤60 ng/L
Start	10 UV	411	7	Pass
25%	50 Liters	405	<1	Pass
50%	100 liters	408	<1	Pass
75%	150 liters	392	<1	Pass
100%	200 liters	397	14	Pass

Meprobamate Reporting Limit: 1 ng/L

Metolachlor Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Metolachlor (1120-1680 ng/L)	Effluent 1 Metolachlor (ng/L)	Passed/Failed ≤200 ng/L
Start	10 UV	1327	<10	Pass
25%	50 Liters	1393	<10	Pass
50%	100 liters	1586	<10	Pass
75%	150 liters	1422	<10	Pass
100%	200 liters	1424	<10	Pass

Metolachlor Reporting Limit: 10 ng/L

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DEET Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 DEET (1120-1680 ng/L)	Effluent 1 DEET (ng/L)	Passed/Failed ≤200 ng/L
Start	10 UV	2010	<10	Pass
25%	50 Liters	1417	<10	Pass
50%	100 liters	1417	<10	Pass
75%	150 liters	1304	<10	Pass
100%	200 liters	1430	20	Pass

DEET Reporting Limit: 10 ng/L

Linuron Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Linuron (112-184 ng/L)	Effluent 1 (ng/L)	Passed/Failed ≤20 ng/L
Start	10 UV	167	<1	Pass
25%	50 Liters	155	<1	Pass
50%	100 liters	135	<1	Pass
75%	150 liters	148	<1	Pass
100%	200 liters	158	<1	Pass

Linuron Reporting Limit: 1 ng/L

Filter System Tested

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

Jaime A. Young
Jaime A. Young
Lab Director

QFT LABORATORY, LLC. Test Report

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EPA ID # NJ01298 ANAB Cert ID AT-2866

Send To:

Justin Wang

LARQ

Result: Passed Date: 11/29/2021

Customer Name: LARQ

Tested To: NSF/ANSI Std 401 Section 7, Group 2

Description: Sport Bottle Filter

Test Type: R&D Testing

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: 11/29/2021

Jaime A. Young
Lab Director

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EPA ID # NJ01298 IAPMO ID# 000102

NSF/ANSI Standard 401 Emerging Compounds Group 2 Reduction PT 100%: Passed

Manufacturer's Name: LARQ

Sample Type: Sport Bottle Filter

Flow Rate: 800 ml/min

Filter Capacity: 200 liters

Conditioning Procedure: Flush for 1 liter

Cycle: 30 seconds on 60 seconds off

Physical Description of Sample: Mouth Drawn

Performance Indicator Device: No, test to 100% of Capacity

Test Description: NSF/ANSI Std. 401, Section7, Group 2 – Emerging Compound Group 2 Reduction Testing

Trade Designation/Model Number: Spot bottle Filter

Unit Volume: 0.01 L

Performance Standard: NSF/ANSI 401, Section 7 – 2020

Pass/Fail Criteria (Emerging compound Maximum Product Water Concentration)**:**

TCEP passing criteria: 700 ng/L

TCPP passing criteria: 700 ng/L

Decision Rule: Pass/Fail based on simple acceptance of the analytical results above the NSF/ANSI Std limit

Water Characteristics

Sample Point	pH (7.5±0.5)	Temperature (20±3ºC)	TDS (200 to 500 mg/L)	Turbidity (<1 NTU)	TOC (≥1.0 mg/L)
Start	7.24	18.9	299	0.41	1.2
25%	7.48	19.1	281	0.41	1.2
50%	7.48	19.3	283	0.42	1.2
75%	7.88	19.4	298	0.44	1.2
100%	7.41	19.2	308	0.48	1.3
Average	**7.50**	**19.18**	**294**	**0.43**	**1.2**

QFT LABORATORY, LLC.

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EPA ID # NJ01298 IAPMO ID# 000102

TCEP Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 TCEP (ng/L)	Effluent 1 TCEP Concentration (ng/L)	Passed/Failed
Start	10 UV	4670	10	Pass
25%	50 Liters	4811	32	Pass
50%	100 liters	4403	17	Pass
75%	150 liters	5597	35	Pass
100%	200 liters	4491	105	Pass

TCEP Reporting Limit: 10 ng/L

TCPP Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 TCPP (ng/L)	Effluent 1 TCPP Concentration (ng/L)	Passed/Failed
Start	10 UV	4170	<10	Pass
25%	50 Liters	4427	42	Pass
50%	100 liters	5136	<10	Pass
75%	150 liters	4864	<10	Pass
100%	200 liters	4491	13	Pass

TCPP Reporting Limit: 10 ng/L

Filter System Tested

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

Jaime A. Young
Jaime A. Young
Lab Director

QFT LABORATORY, LLC. Test Report

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

Send To:

Justin Wang

LARQ

Result: Passed Date: 11/29/2021

Customer Name: LARQ

Tested To: NSF/ANSI Standard 401 Emerging Compounds Group 3 Reduction PT 100%

Description: Sport Bottle Filter

Test Type: R&D Testing

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: 11/29/2021

Jaime A. Young
Lab Director

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NSF/ANSI Standard 401 Emerging Compound Group 3 Reduction PT 100%: Passed

Manufacturer's Name: LARQ

Sample Type: R&D Testing

Product Type: Sport Bottle Filter

Flow Rate: 800 ml/min

Filter Capacity: 200 liters

Conditioning Procedure: Flushed for 1 liter

Cycle: 30 seconds on 60 seconds off

Physical Description of Sample: Mouth drawn

Performance Indicator Device: NA, test to 100% of Capacity

Test Description: NSF/ANSI Std. 401, Section 7, Group 3 – Emerging Compound Group 3 Reduction Testing

Trade Designation/Model Number: Sport Bottle Filter

Unit Volume: 0.01 L

Performance Standard: NSF/ANSI 401 – 2020

Pass/Fail Criteria (Emerging Compound Maximum Product Water Concentration)**:**

Phenytoin passing criteria: 30 ng/L

Ibuprofen passing criteria: 60 ng/L

Naproxen passing criteria: 20 ng/L

Estrone passing criteria: 20 ng/L

Bisphenol A passing criteria: 300 ng/L

Nonylphenol passing criteria: 200 ng/L

Decision Rule: Pass/Fail based on simple acceptance of the analytical results above the NSF/ANSI Std limit

Water Characteristics

Sample Point	pH (7.5±0.5)	Temperature (20±3°C)	TDS (200 to 500 mg/L)	Turbidity (<1 NTU)	TOC (>1)
Start	7.41	18.9	220	0.39	1.2
25%	7.48	18.9	248	0.41	1.2
50%	7.31	18.7	251	0.44	1.3
75%	7.48	19.1	288	0.41	1.2
100%	7.21	19.2	210	0.42	1.3
Average	**7.38**	**19.0**	**243**	**0.41**	**1.2**

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Phenytoin Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Phenytoin (160-240 ng/L)	Effluent 1 Phenytoin (ng/L)	Passed/Faile d ≤ 30ng/L
Start	10 UV	164	<1	Pass
25%	50 Liters	256	<1	Pass
50%	100 liters	211	<1	Pass
75%	150 liters	202	<1	Pass
100%	200 liters	200	19	Pass

Phenytoin Reporting Limit: 1 ng/L

Naproxen Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Naproxen (112-168 ng/L)	Effluent 1 Naproxen (ng/L)	Passed/Failed ≤20 ng/L
Start	10 UV	236	3	Pass
25%	50 Liters	188	<1	Pass
50%	100 liters	148	<1	Pass
75%	150 liters	147	<1	Pass
100%	200 liters	170	8	Pass

Naproxen Reporting Limit: 1 ng/L

Bisphenol A Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Bisphenol A (1600-2400 ng/L)	Effluent 1 Bisphenol A (ng/L)	Passed/Failed ≤300 ng/L
Start	10 UV	1356	<10	Pass
25%	50 Liters	2248	<10	Pass
50%	100 liters	2222	<10	Pass
75%	150 liters	2196	<10	Pass
100%	200 liters	2398	<10	Pass

Bisphenol A Reporting Limit: 10 ng/L

Estrone Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Estrone (112-168 ng/L)	Effluent 1 Estrone (ng/L)	Passed/Failed ≤20 ng/L
Start	10 UV	214	2	Pass
25%	50 Liters	167	<1	Pass
50%	100 liters	147	<1	Pass
75%	150 liters	143	<1	Pass
100%	200 liters	156	<1	Pass

Estrone Reporting Limit: 1 ng/L

Ibuprofen Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Ibuprofen (320-480 ng/L)	Effluent 1 Ibuprofen (ng/L)	Passed/Failed ≤ 60 ng/L
Start	10 UV	348	<10	Pass
25%	50 Liters	465	<10	Pass
50%	100 liters	434	<10	Pass
75%	150 liters	408	<10	Pass
100%	200 liters	484	<10	Pass

Ibuprofen Reporting Limit: 10 ng/L

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Nonylphenol Filter Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Nonylphenol (1120-1680 ng/L)	Effluent 1 Nonylphenol (ng/L)	Passed/Failed ≤ 200 ng/L
Start	10 UV	1448	<10	Pass
25%	50 Liters	1621	<10	Pass
50%	100 liters	1524	<10	Pass
75%	150 liters	1502	<10	Pass
100%	200 liters	1703	<10	Pass

Nonylphenol Reporting Limit: 10 ng/L

Filter System Tested

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

Jaime A. Young
Jaime A. Young
Lab Director