



301 West County Road E2 • St. Paul, MN 55112-6859
651.633.0101 • FAX 651.633.1402
www.spectrum-labs.com

March 22, 2001

Mr. Larry Decker
Purest Water Company

Dear Mr. Decker:

Enclosed, please find our final report regarding the evaluation of the Purest Water Company replacement cartridge with blue endcap for chlorine, high pH lead and mercury, polychlorinated biphenyls (PCBs), trichloroethylene (TCE), turbidity and volatile organic compounds (VOCs) reduction. Prior to the testing, units were conditioned according to manufacturer's instructions that state to run 5 gallons of water through the filters prior to use. Metals reduction (lead and mercury) was performed in one batch of challenge water. All other contaminants were tested in separate challenge batches.

Spectrum Labs 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 me at (651) 633-0101 ext. 147, send a fax to (651) 633-1402 or email clamere@spectrum-labs.com.

Sincerely,

A handwritten signature in black ink that reads "Carey LaMere". The signature is written in a cursive, flowing style.

Laboratory Technician

NOTICE:
Spectrum Labs is now
Pace Analytical Services.
(Tim Shannon) 612—607-6339



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LABORATORY ANALYSIS REPORT

DATE: 2001
CLIENT: Purest Water Company

PAGE: 1Of 6
PROJECT NO.: 2419

COLLECTED BY: CK, CL, MH
PROJECT DESC: Replacement Cartridge with Blue Endcap

CONTACT: Mr. Larry Decker

High pH and Alkalinity Lead and Mercury Reduction

<u>Sample #. Desc.</u>	Lead		<u>Collection Date</u>	<u>Analysis Date</u>	<u>Flow Rate (GPM)</u>
	<u>(EPA 200.8) Units = mg/L</u>	<u>Percent Reduction</u>			
40588-2, 100 gallons Influent	0.11		10/23/00	10/26/00	
40588-3, 100 gallons 2419-6	<0.00038	99	10/23/00	10/26/00	0.75
40588-4, 300 gallons Influent	0.11		10/24/00	10/26/00	
40588-5, 300 gallons 2419-6	<0.00038	99	10/24/00	10/26/00	0.75
40588-6, 500 gallons Influent	0.14		10/25/00	10/26/00	
40588-7, 500 gallons 2419-6	0.013	91	10/25/00	10/26/00	0.74
40588-8, 750 gallons Influent	0.11		10/26/00	10/27/00	
40588-9, 750 gallons 2419-6	0.023	79	10/26/00	10/27/00	0.75

<u>Sample #. Desc.</u>	Mercury		<u>Collection Date</u>	<u>Analysis Date</u>	<u>Flow Rate (GPM)</u>
	<u>(EPA 200.8) Units = mg/L</u>	<u>Percent Reduction</u>			
40588-14, 300 gallons Influent	0.0067		10/24/00	11/14/00	
40588-16, 300 gallons 2419-6	0.00074	89	10/24/00	11/14/00	0.75
40588-15, 500 gallons Influent	0.11		10/25/00	11/14/00	
40588-7, 500 gallons 2419-6	0.0035	49	10/25/00	10/26/00	0.75

GPM means Gallons Per Minute

mg/L means Milligrams Per Liter, which is equivalent to Parts Per Million (ppm)



LABORATORY ANALYSIS REPORT

DATE: 2001 **PAGE:** 2Of 6
CLIENT: Purest Water Company **PROJECT NO.:** 2419-Revision 1
COLLECTED BY: CK, CL, MH
PROJECT DESC: Replacement Cartridge with Blue Endcap

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Chlorine Reduction

<i>Chlorine</i> (EPA 330.4) Percent Collection Analysis Flow Rate						
<u>Sample #. Desc.</u>	<u>Chlorine (EPA 330.4) Units = mg/L</u>	<u>Percent Reduction</u>	<u>Collection Date</u>	<u>Analysis Date</u>	<u>Flow Rate (GPM)</u>	
40353-1, 300 gallons Influent	2.2		10/16/00	10/16/00		
40353-2, 300 gallons 2419-1 2	<0.01	99	10/16/00	10/16/00	0.77	
40353-3, 500 gallons Influent	2.1		10/17/00	10/17/00		
40353-4, 500 gallons 2419-1 2	<0.01	99	10/17/00	10/17/00	0.76	
40353-5, 750 gallons Influent	2.1		10/19/00	10/19/00		
40353-6, 750 gallons 2419-12	<0.01	99	10/19/00	10/19/00	0.76	

Volatile Organic Compounds (VOCs) Reduction by Chloroform Surrogate

<u>Sample #. Desc.</u>	<u>Chloroform (EPA502.2) Units = mg/L</u>	<u>Percent Reduction</u>	<u>Collection Date</u>	<u>Analysis Date</u>	<u>Flow Rate (GPM)</u>
404 75-2, 100 gallons Influent	0.30		10/19/00	11/01/00	
40475-3, 100 gallons 2419-1 0	<0.0005	99	10/19/00	11/02/00	0.73
404 75-4, 300 gallons Influent	0.33		10/29/00	11/02/00	
404 75-5, 300 gallons 2419-10	<0.0005	99	10/20/00	11/02/00	0.60
404 75-6, 500 gallons Influent	0.35		10/23/00	11/02/00	
40475-7, 500 gallons 2419-1 0	0.010	97	10/23/00	11/02/00	0.66

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Polychlorinated Biphenyls (PCBs) Reduction

<u>Sample #. Desc.</u>	PCBs		<u>Collection Date</u>	<u>Analysis Date</u>	Flow Rate
	(EPA508)	Percent			
	<u>Units = mg/L</u>	<u>Reduction</u>			<u>(GPM)</u>
442 15-2, 100 gallons Influent	0.016		02/28/01	03/08/01	
442 15-3, 100 gallons 2419-16	<0.0005	97 ¹	02/28/01	03/07/01	0.75
44215-4, 300 gallons Influent	0.015		03/01/01	03/08/01	
44215-5, 300 gallons 2419-16	<0.0005	97 ¹	03/01/01	03/07/01	0.75
44215-6, 500 gallons Influent	0.014		03/01/01	03/08/01	
44215-7, 500 gallons 2419-16	<0.0005	96 ¹	03/01/01	03/07/01	0.75
44215-8, 750 gallons Influent	0.014		03/02/01	03/08/01	
44215-9, 750 gallons 2419-16	<0.0005	96 ¹	03/02/01	03/08/01	0.75

Trichloroethene (TCE) Reduction

<u>Sample #. Desc.</u>	TCE		<u>Collection Date</u>	<u>Analysis Date</u>	Flow Rate
	(EPA524)	Percent			
	<u>Units = mg/L</u>	<u>Reduction</u>			<u>(GPM)</u>
43149-2, 300 gallons Influent	0.37		01/26/01	01/27/01	
43149-3, 300 gallons 2419-1 4	<0.0005	99	01/26/0 1	01/27/01	0.75
43149-4, 500 gallons Influent	0.38		01/26/01	01/30/01	
43149-5, 500 gallons 2419-1 4	<0.0005	99	01/26/01	01/30/01	0.75
43149-6, 750 gallons Influent	0.41		01/29/01	01/30/01	
43149-7, 750 gallons 2419-14	<0.0005	99	01/29/01	01/30/01	0.73

¹Where effluent levels were below the Method Detection Limit (MDL), the MDL was used to calculate the reduction percentage.

GPM means Gallons Per Minute

mg/L means Milligrams Per Liter, which is equivalent to Parts Per Million (ppm)



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Turbidity Reduction (EPA 180.1)

Test Unit 2419-11

<u>Percent Flow Drop</u>	<u>Influent Turbidity Level (NTU)</u>	<u>Effluent Turbidity Level (NTU)</u>	<u>Percent Reduction</u>	<u>Flow Rate (GPM)</u>	<u>Gallons Treated</u>	<u>Date Analyzed</u>
Flush	<0.10	0.13	—	0.75	5	12/28/00
Initial	10	0.15	99	0.75	1	12/28/00
Fourth Cycle	11	0.26	98	0.75	23	12/28/00
—	12	0.42	97	0.73	597	01/02/01
—	11	1.4'	87	0.72	630	01/03/01

¹Filter 2419-1 1 reduced influent turbidity levels of 11 ±1 NTU to not more than 0.5 NTU through 597 gallons, which is more than the expected capacity of the filter (500 gallons).

Note: Analytical Method: ASTM F796
 Operating Cycle: 10 minutes on / 10 minutes off
 Contaminant: PTI Fine Test Dust

GPM means Gallons Per Minute
NTU means Nephelometric Turbidity Unit



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General Test Water Characteristics

Test Contaminant:	Pb/Hg		
Sample #:	40588-1		
Date Collected:	10/20/00		Date
Parameter	Specifications	Results	Analyzed
Alkalinity	100-250 mg/L	110 mg/L	10/24/00
pH	8.5± 0.25	8.5	10/20/00
Hardness	100-250 mg/L	100 mg/L	10/20/00
Phosphate	<0.5 mg/L	<0.005	10/24/00
Temperature	20 ⁰ C ± 2.5 ⁰ C	20 ⁰ C	10/20/00
TDS	200-500 mg/L	230 mg/L	10/20/00
Turbidity	<1 NTU	<1 NTU	10/20/00

Test Contaminant:	Chlorine	Chloroform	PCB	TCE	
Sample #:	40353-1	404 75-1	44215-1	43149-1	
Date Collected:	10/13/00	10/18/00	02/28/01	01/25/01	
Parameter	Specifications	Results	Results	Results	Results
pH	7.5± 0.5	7.2	7.1	7.0	7.2
Temperature	20 ⁰ C ± 2.5 ⁰ C	18 ⁰ C	19 ⁰ C	19 ⁰ C	19 ⁰ C
TDS	200-500 mg/L	290 mg/L	310 mg/L	260 mg/L	280 mg/L
TOC	>1.0 mg/L	9.8 mg/L	9.6 mg/L		
Turbidity	<1 NTU	<1 NTU	<1 NTU	<1 NTU	<1 NTU

mg/L means Milligrams Per Liter, which is equivalent to Parts Per Million (ppm)
NTU means Nephelometric Turbidity Unit
TDS means Total Dissolved Solids



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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.

Report Prepared By,

A handwritten signature in black ink that reads "Carey LaMere".

Carey LaMere
Laboratory Technician

Report Reviewed By,

A handwritten signature in black ink that reads "Gary W Jorgensen".

Gary W Jorgensen
Product Testing Supervisor