ENVIROTEK LABORATORIES, INC.
33 Third Street, Bordentown, NJ 08505
PHONE 856-583-0445 www.enviroteklab.com
EPA ID # NJ01298 NJ DEP ID # 03048 NY ELAP ID # 12044

ATC SUPER STERASYL FILTER METALS TEST REPORT

Report # 16-374-Metals High pH
Report Date: 11/08/2016
Customer Name: Fairey Industrial Ceramics, Ltd.

EXECUTIVE SUMMARY

Eight hundred gallons of tap water was spiked with Metals Standard Solution at pH 8.50; the spiked tap water was filtered through the filter element and tested; the Metals in the tap water were reduced at the efficiencies recorded in Table 2 after 800 gallons.

.

INTRODUCTION

Eight hundred gallons of tap water was spiked with Metals Standard Solution at pH 8.50; the spiked tap water was filtered through the filter element and tested following the EPA Method 200.8; the Metals in the tap water were reduced at the efficiencies recorded in Table 2 after 800 gallons.

REAGENTS, MATERIALS, AND LAB EQUIPMENT

Perkin Elmer ICP/MS DRC-e 6100 mass spectrometer.
Inorganic Ventures Metals Standard Solution Catalog # Envirotek-2
ATC Super Sterasyl Filter.

PROCEDURE

Eight hundred gallons of tap water was spiked with Metals Standard Solution in a Tank and mixed well; this solution was tested and adjusted to have the concentrations of Metals summarized on Table 2 bellow and a pH of 8.50; the influent water properties are summarized in Table 1 below. The solution was filtered through the ATC Super Sterasyl Filter and tested every 100 gallons following the EPA Method 200.8 for Metals in drinking water. The results are summarized in Table 2 below.

RESULTS

Table 1
Influent Challenge Water Properties

Parameter	Influent Challenge Water	Target
pH	8.45 to 8.75	8.25 to 8.75
Temperature	20.0 to 21.5 °C	20 ± 2.5°C
TDS	200 to 450 mg/L	200 to 500 mg/L
Turbidity	0.75 to 0.85 NTU	<1 Nephelometric Turbidity Units

Table 2
Filtered Water Metals Test Results

Drinking Water Contaminant Tested	Influent Water Results in µg/L	Filter Results 100 gallons	Filter Results 200 gallons	Filter Results 300 gallons	Filter Results 400 gallons	% Reduction at 400 gallons
Arsenic	388	0.7	<0.5	<0.5	<0.5	99.9+
Barium	1204	36.9	38.9	37.7	38.9	96.8
Beryllium	6.1	<0.5	<0.5	<0.5	<0.5	91.8+
Cadmium	32	0.5	<0.5	<0.5	<0.5	98.4+
Mercury	6.0	<0.5	<0.5	<0.5	<0.5	91.8+
Antimony	6.3	<0.5	<0.5	<0.5	<0.5	92.1+
Selenium	99.7	<0.5	1.4	2.5	3.3	96.4
Thallium	6.0	<0.5	<0.5	<0.5	<0.5	91.7+
Copper	2891	305	346	355	368	87.3
Iron	3050	35.6	37.7	40.2	41.1	98.7
Manganese	1087	36.3	43.2	45.3	50.2	95.4
Zinc	1449	203	217	207	209	85.6

ENVIROTEK LABORATORIES, INC.
33 Third Street, Bordentown, NJ 08505
PHONE 856-583-0445 www.enviroteklab.com
EPA ID # NJ01298 NJ DEP ID # 03048 NY ELAP ID # 12044

Table 2
Filtered Water Metals Test Results

Drinking Water Contaminant Tested	Influent Water Results in µg/L	Filter Results 500 gallons	Filter Results 600 gallons	Filter Results 700 gallons	Filter Results 800 gallons	% Reduction at 800 gallons
Arsenic	388	<0.5	<0.5	<0.5	<0.5	99.9
Barium	1204	34.7	32.5	33.4	36.3	97.0
Beryllium	6.1	<0.5	<0.5	<0.5	<0.5	91.8+
Cadmium	32	0.5	0.6	<0.5	<0.5	98.4+
Mercury	6.0	<0.5	<0.5	<0.5	<0.5	91.7+
Antimony	6.3	<0.5	<0.5	<0.5	<0.5	92.1+
Selenium	99.7	2.6	2.3	1.4	1.0	99.0
Thallium	6.0	<0.5	<0.5	<0.5	<0.5	91.7+
Copper	2891	328	383	406	410	85.8
Iron	3050	41.6	39.6	40.3	41.5	98.6
Manganese	1087	53.7	54.3	58.3	55.6	94.9
Zinc	1449	257	260	271	275	81.0

CONCLUSION:
The ATC Super Sterasyl Filter reduces the Metals concentration by at least 81% for up to 800 gallons except for Aluminum; tested following the NSF Standard 53.

CERTIFICATION OF RESULTS:
I certify in writing that all analyses, and reporting performed herein, comply with all requirements set forth in N.J.A.C. 7:9E and N.J.A.C. 7:18, and hereby certify that this laboratory is in compliance with all laboratory certification and quality control procedures and requirements as set forth in N.J.A.C. 7:18; the NYCRR Subpart 55-2 and the National Environmental Laboratory Accreditation Conference (NELAC) Institute Standards.

Disclaimer: The test results are only related to the filter sample tested.

Jaime A. Young
Jaime A. Young
Lab Director