UNIVERSITY OF KENTUCKY
Department of Interior Design, Merchandising, and Textiles

College of Human Environmental Sciences
318 Erikson Hall
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July 24, 2000

Chris Cahill, Infectious Control Consultant
Department of Health Services
1800 Third Street
PO Box 942732
Sacramento, CA 94234-7320

Dear Ms. Cahill:

This correspondence reports the parameters of the laboratory evaluation to compare a traditional laundry cycle to an ozone-enriched laundry cycle. The conditions were as follows:

Date - Monday, July 10, 2000

Location of Tests - Textile Testing Laboratory, University of KY, Lexington, KY

Time - Ozone enriched samples collected @ 1:30 p.m. EDST
Traditional samples collected @ 2:42 p.m. EDST

Wash Programs - (see attached copies)

Traditional (Pre-Ozone) - Cold water temperature - 75 F
Hot water temperature - 140 F
pH of water - 6.6
Ozone enriched - Cold water temperature - 75 F
pH of water 6.6
Ozone - 0.93 ppm @ and ORP of 996

Load Composition - heavy soiled incontinence pads with extremely visible fecal material from Homestead Nursing Center, Lexington, KY. The soiled load was collected 7/10/00.

Traditional (Pre-Ozone) - 12.0 lbs. load size
Ozone enriched - 12.4 lbs. load size

Sampling - water samples were collected at the port of the drain pipe. Samples were collected after the drain water started to flow and approximately five seconds into the drain.

What part of the cycle were samples collected? During final spin.

Who collected samples? Mark Moore collected the samples in prepared vials.

Sample Preparation - each sample vial was immediately placed on the lab counter and one thiosulfate tablet was dropped into the vial. The cap was placed on the vial and prepared for shipping.

Shipping Samples - Labels were prepared for sample holders. Labeled samples were placed in plastic bags and into shipping carton. A 0° F ice pack was placed on top of vials and the box was sealed. The box was picked up by Fed Ex for overnight shipping to Biomedical Testing Services, San Diego, CA.

Analysis - The water samples were received by Biomedical Testing Services on July 11, 2000 at 9:30 a.m. and analyzed. The analysis report is attached.

If you have questions about this evaluation, please call me at 859 257-7777.

Sincerely,

Elizabeth P. Easter

Elizabeth P. Easter, Ph.D.
Professor & Laboratory Supervisor

cc. Paul John DePuyt & Jim Konides

REPORT DATE: 07/20/2000
REPORT TIME: 08:45

SAMPLE ID:
SUPERIOR LAUNDRY SYSTEMS,WATER MONITORING

U

REF #: BTS-15461

SUPERIOR LAUNDRY SYSTEMS (BTS)
5207 MATISSE LANE
BONITA, CA 91902

BTS

ACC. NO.: T77812 COLLECTED:07/10/2000 15:25 RECEIVED:07/11/2000 09:30

Specimen type: WATER SYSTEM MONITORING
STUDY NUMBER PRE_OZONIZATION
WASHING WITHOUT OZONE

HETEROTROPHIC COUNT
METHOD:
CFU/ml BY .45um MEMBRANE FILTRATION
AND INCUBATION AT 35°C/48hrs ON R2A AGAR.
STANDARD METHODS: 9215D

GRAM NEGATIVE BACTERIA ONLY: BY .45 um MEMBRANE FILTRATION
AND INCUBATION AT 35°C/48 HOURS ON MACCONKEY AGAR.
STANDARD METHODS: 9222B

SAMPLE NUMBER: TOTAL BACTERIA
PRE OZONE 4
<1 CFU/ML
(0 CFU/500 UL)

SAMPLE NUMBER: GRAM NEGATIVE BACTERIA
PRE OZONE 4
<1 CFU/ML
(0 CFU/500 UL)

ACC. NO.: T77809 COLLECTED:07/10/2000 15:24 RECEIVED:07/11/2000 09:30

Specimen type: WATER SYSTEM MONITORING
STUDY NUMBER PRE_OZONIZATION
WASHING WITHOUT OZONE

HETEROTROPHIC COUNT
METHOD:
CFU/ml BY .45um MEMBRANE FILTRATION
AND INCUBATION AT 35°C/48hrs ON R2A AGAR.
STANDARD METHODS: 9215D

FOR GRAM NEGATIVE BACTERIA ONLY: BY .45um MEMBRANE
FILTRATION AND INCUBATION AT 35°C/48 HOURS ON MACCONKEY
AGAR. STANDARD METHODS: 9222B

BIOMEDICAL TESTING SERVICES
10788 Roselle Street, San Diego, CA 92121 (858) 550-3210 / Fax (858) 550-3293

REPORT DATE: 07/20/2000
REPORT TIME: 08:45

SAMPLE ID:
SUPERIOR LAUNDRY SYSTEMS,WATER MONITORING

U

REF #: BTS-15461

SUPERIOR LAUNDRY SYSTEMS (BTS)
5207 MATISSE LANE
BONITA, CA 91902

BTS

ACC. NO.: T77809 COLLECTED:07/10/2000 15:24 RECEIVED:07/11/2000 09:30

Specimen type: WATER SYSTEM MONITORING
HETEROTROPHIC COUNT (CONTINUED)
SAMPLE NUMBER: TOTAL BACTERIA
PRE OZONE 3
<1 CFU/ML
(0 CFU/500 UL)

SAMPLE NUMBER: GRAM NEGATIVE BACTERIA
PRE OZONE 3
<1 CFU/ML
(0 CFU/500 UL)

ACC. NO.: T77808 COLLECTED:07/10/2000 14:26 RECEIVED:07/11/2000 09:30

Specimen type: WATER SYSTEM MONITORING
STUDY NUMBER POST_OZONIZATION
WASHING WITH OZONE

HETEROTROPHIC COUNT
METHOD:
CFU/ml BY .45um MEMBRANE FILTRATION
AND INCUBATION AT 35'C/48hrs ON R2A AGAR.
STANDARD METHODS: 9215D

GRAM-NEGATIVE BACTERIA ONLY: BY .45 um MEMBRANE FILTRATION
AND INCUBATION AT 35'C/48 HOURS ON MACCONKEY AGAR.
STANDARD METHODS: 9222B

SAMPLE NUMBER: TOTAL BACTERIA
POST OZONE 2
<1 CFU/ML
(0 CFU/500 UL)

SAMPLE NUMBER: GRAM NEGATIVE BACTERIA
POST OZONE 2
<1 CFU/ML
(0 CFU/500 UL)

BIOMEDICAL TESTING SERVICES
10788 Roselle Street, San Diego, CA 92121 (858) 550-3210 / Fax (858) 550-3293

REPORT DATE: 07/20/2000
REPORT TIME: 08:45

SAMPLE ID:
SUPERIOR LAUNDRY SYSTEMS, WATER MONITORING

U

REF #: BTS-15461

SUPERIOR LAUNDRY SYSTEMS (BTS)
5207 MATISSE LANE
BONITA, CA 91902

BTS

ACC. NO.: T77807 COLLECTED:07/10/2000 14:25 RECEIVED:07/11/2000 09:30

Specimen type: WATER SYSTEM MONITORING

STUDY NUMBER	POST_OZONIZATION WASHING WITH OZONE
HETEROTROPHIC COUNT METHOD:	CFU/ml BY .45um MEMBRANE FILTRATION AND INCUBATION AT 35'C/48hrs ON R2A AGAR. STANDARD METHODS: 9215D
	GRAM NEGATIVE BACTERIA ONLY: BY .45 um MEMBRANE FILTRATION AND INCUBATION AT 35'C/48 HOURS ON MACCONKEY AGAR. STANDARD METHODS: 9222B
SAMPLE NUMBER:	TOTAL BACTERIA POST OZONE 1 8 CFU/ML
SAMPLE NUMBER:	GRAM NEGATIVE BACTERIA POST OZONE 1 <1 CFU/ML (0 CFU/500 UL)

BIOMEDICAL TESTING SERVICES
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Cycle #29 Heavy Soil Bed Pads with Hot Water

Warm Fill / High Level

Wash 3 minutes

Drain

Hot Fill / High Level

Wash 3 minutes

Drain

Hot Fill / Medium Level

Supply 1 – Detergent

Wash 8 minutes

Drain

Hot Fill / Medium Level

Supply 2 Chlorine Bleach

Wash 8 minutes

Drain

Spin – 30 Seconds

Warm Fill / High Level

Wash 3 minutes

Drain

Warm Fill / High Level

Wash 3 minutes

Drain

Spin – 30 Seconds

Warm Fill / High Level

Wash 3 minutes

Drain - *Collect Sample

Spin – 5 minutes

Cycle #30 Heavy Soil Diapers/Pads with Ozone

Cold Fill / High Level

Wash 3 minutes

Drain

Warm Fill / High Level

Wash 3 minutes

Drain

Cold Fill / Medium Level

Supply 1 Detergent

Wash 8 minutes

Drain

Cold Fill / Medium Level

Supply 2 Bleach

Wash 8 minutes

Drain

Spin 30 Seconds

Cold Fill / High Level

Wash 3 minutes

Drain

Cold Fill / High Level

Wash 3 minutes

Drain

Spin 30 Seconds

Cold Fill / High Level

Wash 3 minutes

Drain *Collect Sample

Spin – 5 Minutes