



Date: 9/25/2020

To: Mitchell Gayer

From: David Ekstrand
Kadeem Hill
Veronica Kero, CIH, P.E.

Re: **(NJIT NEWARK CAMPUS WASTEWATER DISCHARGE SARS-CoV-2 SAMPLING & PCR ANALYSIS) WEEKLY DATA SUMMARY FOR 9/21-9/23/2020** {Omega Project #: 20-1177}

Attachment(s):

- *Prestige EnviroMicrobiology Laboratory Analysis Reports for samples collected 9/14-9/16/2020*

Project Overview:

In order to proactively predict potential escalation of COVID-19 cases in occupied campus dormitory buildings, 24-hour composite wastewater (WW) discharge sampling is being performed, followed by 3rd party laboratory analysis in accordance with the published method cited on the attached laboratory analysis report using the approved CDC EUA Kit.

Weekly Data Summary:

WW Discharge Sampling Location	24-hr Sampling Date Range	2019-nCoV (N1 Protein)	Cycle Threshold Value ³ (N1 Protein)	2019-nCoV (N2 Protein)	Cycle Threshold Value ³ (N2 Protein)	Conc. (Copies of RNA/mL)
Laurel M-04 Laurel Man Trap	9/21- 9/22/2020	ND	ND	ND	ND	NA
Laurel E-02 Laurel Extension Manhole	9/21- 9/22/2020	ND	ND	ND	ND	NA
Oak-05 Oak Building Trap	9/21- 9/22/2020	ND	ND	ND	ND	NA
Cypress-04 Cypress Trap	9/21- 9/22/2020	ND	ND	ND	ND	NA
Redwood 3	9/22- 9/23/2020	ND	ND	ND	ND	NA
Greek Honors 5	9/22- 9/23/2020	ND	ND	ND	ND	NA

Data Interpretation:

The NJ published COVID-19 infection rate was <2%, this data set reflects a full occupancy baseline with multiple reported COVID-19 cases on the NJIT campus.

Prestige EnviroMicrobiology, Inc.

Analytical Test Report

Client: Omega Environmental Services, Inc., 280 Huyler Street, South Hackensack, NJ 07606

Client Project/Name: 20-1177

Sample date: 9-21-2020 & 9-22-2020

Submittal date: 9-22-2020

Sample received: 9-23-2020

Samples submitted by: David Ekstrand


Date analysis completed: September 23, 2020

Prestige Report number: 200923-02


RT-PCR 2019-nCoV: Analysis of Water samples for the detection of SARS-CoV-2 Genetic Markers

Prestige # Client sample ID Location	2019-nCoV (N1 Protein)	Cycle Threshold (Ct) Value ³ (N1 Protein)	2019-nCoV (N2 Protein)	Cycle Threshold Value ³ (N2 Protein)	Conc. (copies of RNA/mL)
200923-02-002 Laurel M-04 Laurel Man Trap	ND	ND	ND	ND	NA
200923-02-003 Laurel E-02 Laurel Extension Manhole	ND	ND	ND	ND	NA
200923-02-004 Oak-05 Oak Building Trap	ND	ND	ND	ND	NA
200923-02-005 Cypress-04 Cypress Trap	ND	ND	ND	ND	NA

Report approved: _____


Theresa Lehman, MPH, Lab Director

Technical Manager: _____


Chin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

1. The samples in this report were received in good, acceptable conditions. Results relate only to the items tested.
2. Wastewater samples are processed following the protocol described in the article: Ahmed, W., et al. 2020. First confirmed detection of SARS-CoV-2 in untreated wastewater in Australia: A proof of concept for the wastewater surveillance of COVID-19 in the community. Science of the Total Environment 728. <https://doi.org/10.1016/j.scitotenv.2020.138764>
3. The primers and probes in 2019-nCoV CDC EUA Kit are designed for the detection of the two SARS-CoV-2 genes that encode for the N1 and N2 proteins. The kit is manufactured and supplied by Integrated DNA Technologies and approved by the U.S. Centers for Disease Control and Prevention (CDC). Three controls, two positive controls for N proteins and one internal control for the RNA extraction process, are simultaneously run with the samples.

Prestige EnviroMicrobiology, Inc.

4. Cycle Threshold Value refers to the number of cycles required for the fluorescent signal to cross the detectable threshold in Reverse Transcriptase Polymerase Chain Reaction (RT-PCR); a lower cycle threshold value indicates a higher viral load.
5. ND = not detected, no genetic marker is detected within 40 PCR cycles. NA = not applicable. The detection limit is 10 copies/reaction.

Prestige EnviroMicrobiology, Inc.

Analytical Test Report

Client: Omega Environmental Services, Inc., 280 Huyler Street, South Hackensack, NJ 07606

Client Project/Name: 20-1177

Sample date: 9-22-2020 & 9-23-2020

Submittal date: 9-23-2020

Sample received: 9-24-2020

Samples submitted by: David Ekstrand

Date analysis completed: September 24, 2020

Prestige Report number: 200924-01

RT-PCR 2019-nCoV: Analysis of Water samples for the detection of SARS-CoV-2 Genetic Markers

Prestige # Client sample ID Location	2019-nCoV (N1 Protein)	Cycle Threshold (Ct) Value ³ (N1 Protein)	2019-nCoV (N2 Protein)	Cycle Threshold Value ³ (N2 Protein)	Conc. (copies of RNA/mL)
200924-01-001 Redwood 3	ND	ND	ND	ND	NA
200924-01-002 Greek Honors 5	ND	ND	ND	ND	NA

Report approved: _____



Theresa Lehman, MPH, Lab Director

Technical Manager: _____



Chin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

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2. Wastewater samples are processed following the protocol described in the article: Ahmed, W., et al. 2020. First confirmed detection of SARS-CoV-2 in untreated wastewater in Australia: A proof of concept for the wastewater surveillance of COVID-19 in the community. Science of the Total Environment 728. <https://doi.org/10.1016/j.scitotenv.2020.138764>
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4. Cycle Threshold Value refers to the number of cycles required for the fluorescent signal to cross the detectable threshold in Reverse Transcriptase Polymerase Chain Reaction (RT-PCR); a lower cycle threshold value indicates a higher viral load.
5. ND = not detected, no genetic marker is detected within 40 PCR cycles. NA = not applicable. The detection limit is 10 copies/reaction.

Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300
242 Terrace Boulevard, Suite B-1, Voorhees, New Jersey 08043
www.Prestige-em.com

Prestige Proj #: 200923-02
9/23/2020

Chain-of-Custody and Analysis Request Form

Company Name: Omega Environmental Client Proj. #: 20-1177

Company Address: 280 Huyler St., S. Hackensack, NJ PO#: 9/21-9/22/2020

Contact Name: David Ekstrand Phone: 201-522-9879 Report E-mail: David@omega-env.com/lab@omega-env.com

Sample ID	Location or source	Sample type	Area (inch ²)	Analysis requests code or description	Turnaround time*	Notes or special instructions
<u>Laurel N-04</u>	<u>Laurel Van Trap</u>	<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
<u>Laurel E-02</u>	<u>Laurel Expansion</u>	<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
<u>OAK-05</u>	<u>Oak Building Trap</u>	<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
<u>Cypress-04</u>	<u>Cypress Trap</u>	<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	
		<u>Water</u>	<u>NA</u>	<u>PCR for COVID19</u>	<u>Same Day</u>	

*Indicate your request, either standard (3 business days), next day, same day or Saturday.

Samples Submitted by: (print) K. Scalet Samples Submitted by: (sign) [Signature] Date submitted: 9/22/2020

Received by: (sign & print) Living-4:15pm Date & time received: 9/23/2020 11:30am Delivered by: Fedex UPS, USPS, in person

Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300
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www.Prestige-em.com

Prestige Proj #: 200924-01

Chain-of-Custody and Analysis Request Form

Company Name: Omega Environmental

Client Proj. #: 20-1177

Company Address: 280 Huyler St., S. Hackensack, NJ

PO#:

Date Sampled: 9/22-9/23

Contact Name: David Ekstrand

Phone: 201-522-9879

Report E-mail: David@omega-env.com/lab@omega-env.com

Sample ID	Location or source	Sample type	Area (inch ²)	Analysis requests code or description	Turnaround time*	Notes or special instructions
REDWOOD 3		Water	NA	PCR for COVID19	Same Day	
GREEN HAWKS 5		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	
		Water	NA	PCR for COVID19	Same Day	

*Indicate your request, either standard (3 business days), next day, same day or Saturday.

Samples Submitted by: (print) DAVID EKSTRAND

Samples Submitted by: (sign) [Signature]

Date submitted: 9/23/20

Received by: (sign & print) Cheryl Isaac

Date & time received: 9/23/2020 11:25 am

Delivered by: Fedex UPS, USPS, in person

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