

Re:	(NJIT NEWARK CAMPUS WASTEWATER DISCHARGE SARS-CoV-2 SAMPLING & PCR ANALYSIS) WEEKLY DATA SUMMARY FOR 9/14-9/16/2020 {Omega Project #: 20-1177}
From:	David Ekstrand Kadeem Hill Veronica Kero, CIH, P.E.
To:	Mitchell Gayer
Date:	9/18/2020

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)
Oak 4 – Oak TRAP	9/14 - 9/15/2020	ND	ND	ND	ND	Negative
Cypress 3 – Cypress TRAP	9/14 - 9/15/2020	POSITIVE	35.68	POSITIVE	35.49	28
Laurel E1 – Laurel Ext Manhole	9/14 - 9/15/2020	ND	ND	ND	ND	Negative
Greek-4 – Greek / Honors Manhole	9/15 – 9/16/2020	ND	ND	ND	ND	-
Redwood-2 – Redwood Trap	9/15 – 9/16/2020	ND	ND	ND	ND	-

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. Based on the viral concentration in cypress hall sample, it is estimated that there are currently 5 COVID-19 cases within the dorm.



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: 9/14 - 9/15/2020

Submittal date: 9-15-2020

Sample received: 9-16-2020

Samples submitted by: David Ekstrand

Date analysis completed: September 16, 2020

Prestige Report number: 200916-01

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)	Result
200916-01-001 Oak 4 Oak TRAP	ND	ND	ND	ND	Negative
200916-01-002 CYPRESS 3 Cypress TRAP	Positive	35.68	Positive	35.49	Positive
200916-01-003 Laurel E1 Laurel Ext Manhole	ND	ND	ND	ND	Negative

Report approved:

Theresa Lehman, MPH, Lab Director

Technical Manager:

Thin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

The samples in this report were received in good, acceptable conditions. Results relate only to the items tested.
 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. <u>https://doi.org/10.1016/j.scitotenv.2020.138764</u>

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.

 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.
 ND = not detected, no genetic marker is detected within 40 PCR cycles. The detection limit is 10 copies/reaction.

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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: 9/14 - 9/15/2020

Submittal date: 9-15-2020

Sample received: 9-16-2020

Samples submitted by: David Ekstrand

Date analysis completed: September 17, 2020

Prestige Report number: 200916-01A

RT-PCR 2019-nCoV:

Analysis of Water samples for the detection and quantitation 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)
200916-01-001 Oak 4 Oak TRAP	ND	ND	ND	ND	Negative
200916-01-002 CYPRESS 3 Cypress TRAP	Positive	35.68	Positive	35.49	28
200916-01-003 Laurel E1 Laurel Ext Manhole	ND	ND	ND	ND	Negative

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Theresa Lehman, MPH, Lab Director

Chin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

Technical Manager:

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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: 9/15-9/16/2020

Submittal date: 9-16-2020

Sample received: 9-17-2020

Samples submitted by: David Ekstrand

Date analysis completed: September 17, 2020

Prestige Report number: 200917-02

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 (Nl Protein)	2019-nCoV (N2 Protein)	Cycle Threshold Value ³ (N2 Protein)	Result
200917-02-005 Greek-4 Greek / Honors Manhole	ND	ND	ND	ND	Negative
200917-02-006 Redwood-2 Redwood Trap	ND	ND	ND	ND	Negative

Report approved:

Technical Manager:

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Theresa Lehman, MPH, Lab Director

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Chin S Yang, Ph.D.

Analyst: Ching-Yi Tsai, Ph.D.

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TOP: Contact Name: David Ekstrand Fhome: 201-522-9879 Report E-mail: Davide@omega-env.com/lab@omega-env. Sample ID Location or source Sample t-pe Area (inch ²) Analysis requests Turnaround time* Notes or special instruction OAK 44 OA K TRAP Wate NA PCR for COVID19 48-hours SAME DAY	ompany Nam ompany Addi	resc. 280 Huvler St S	Imental Hackensick N			Cli	ent Proj. #: 20-1177
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Company Address:280 Huyler St., S. Hackensack, NJ PO#; PO#;PO
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