

POST-DISINFECTION CORONAVIRUS-19 FIELD VERIFICATION TESTING REPORT

CLIENT:	Mitchell Gaye
CLIEN1:	Mitchell Gay

NJIT

333 Martin Luther King Blvd

Newark, NJ 07102

SITE LOCATION: NJIT

333 Martin Luther King Blvd

Newark, NJ 07102

SCOPE OF WORK: COVID-19 Verification Testing

AREAS TESTED: Campus-Wide

CLIENT CONTACT(S): Mitchell Gayer

SITE EVALUATION CONDUCTED: 4/20 & 4/21/2021

DATE OF REPORT: 4/23/2021

REPORT PREPARED BY: Ross Hernandez

REPORT REVIEWED BY: Veronica Kero CIH, P.E.

{Omega Project#: 21-1040}

Table of Contents

Executive Summary	3
Project Overview	
 Project Overview/Scope of Work 	
 Bio-Load and COVID-19 Field Sampling & Analysis Protocol 	l
ATP Direct Read: Bioluminescence	4
ATP Direct Read Meter Data	_
Data Interpretation	
• Field Notes	
COVID-19 PCR DNA Sequencing	13
 SARS-CoV-2 PCR DNA Swab Sample Results 	
 SARS-CoV-2 PCR DNA Air Sample Results 	
Data Interpretation	
Attachments	10
 Laboratory analysis reports with chain-of-custody 	

Executive Summary:

On 4/20/2021 and 4/21/2021, Omega Environmental Services conducted representative ATP surface testing and SARS-CoV-2 environmental sampling in the following buildings on the NJIT campus:

- Campus Center
- Cullimore Hall
- Mechanical Engineering Center (MEC)
- Guttenberg Information Technologies Center (GITC)
- Central King Building (CKB)
- Faculty Memorial Hall (FMH)
- Houten Library
- Kupfrian Hall
- Tiernan Hall

- Life Sciences & Engineering Center (LSEC)
- Redwood Residential Hall
- Cypress Residential Hall
- Weston Hall
- Wellness Entertainment Center (WEC)
- Honors College Residential Hall
- Oak Residential Hall
- Laurel Residential Hall

The purpose of this testing was to document adequate disinfection and cleaning by the NJIT Building Service staff.

Parameter	Results
Adenosine Triphosphate (ATP) Direct Reads: Bioluminescence Meter (Detects Bacteria and Bio- Load)	 30-out-of-190 representative ATP surface samples collected reported elevated ATP levels (15.8% of samples). 4-out-of the 30 samples with elevated ATP levels were pre-cleaning samples. Meaning they were collected before the area was cleaned by NJIT building services. In the Wellness Entertainment Center, the average pre-cleaning ATP concentration with 175 RLU, with 40% of the samples indicating elevated ATP levels. The average post-cleaning ATP concentration with 76 RLU, representing a 57% reduction in ATP concentrations Omega Environmental Services collected SARS-CoV-2 surface samples on all representative surfaces with elevated ATP levels.
SARS-CoV-2 PCR Samples	• Laboratory results indicate all the SARS-CoV-2 air and surface samples collected on 4/20/21 and 4/21/21 were negative.

Bio-Load and SARS-CoV-2 Field Sampling & Analysis Protocol:

While a COVID-19 PCR DNA sequencing field testing method has become available, pre-screen methods that apply to overall bacteria cleaning are being employed to more efficiently clear areas and reduce testing costs.

- REAL-TIME FIELD SCREEN USING ATP DIRECT-READ BIO-LUMINESCENCE
 METER AND WHITE CLOTH TESTS: Omega field IH to inspect the room and collect
 ATP swabs on all component basis to assess overall cleaning thoroughness. If there are ATP
 swab results statistically above "typical background," re-cleaning of the room will be requested
 followed by repeat ATP testing before proceeding with further testing.
- COVID-19 PCR DNA SEQUENCING METHOD: Once a room passes the above described bio-load testing protocols, a COVID-19 PCR swab will be collected from alternating room locations.
- COVID-19 PCR AIR SAMPLING METHOD: Air samples are collected using a linear oscillating pump in conjunction with a 0.3 µm Polytetrafluoroethylene (PTFE) filter housed 37 mm cassettes. The pump pulls the air from the surrounding area into the cassette where any airborne virus particulates are captured. The samples are collected at a flow rate of 15 liters per minute (LPM), for 2 hours, totaling 1800 liters. Once sampling is complete, samples are shipped to an independent laboratory for analysis. Samples are analyzed via a polymerase chain reaction (PCR) method. The PCR method relies on a protein responsible for DNA replication in cells, please note this protein will only replicate DNA strands that match the COVID-19 sequence. If replication exceeds a threshold established by the laboratory the sample is determined to be positive for the COVID-19 strand. Test results should be used as metrics for cleaning success rather than a direct estimator for infection potential.

Definitions:

ATP - Adenosine Triphosphate RLU - Relative Light Unit *- Elevated ATP Levels

ATP Direct Read: Bio-Luminescence Meter (Hygiena/Ensure) Data:

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
1	04/20/2021 09:21 AM	Campus Center	1 st Floor Sitting Area	Surface of ATM, Keypad	53	105	211	
2	04/20/2021 09:22 AM	Campus Center	1st Floor Sitting Area	Surface of Snack Vending Machine, Touch Screen	116	105	211	
3	04/20/2021 09:22 AM	Campus Center	1 st Floor Sitting Area	Surface of Amazon Locker, Keypad*	306	105	211	SARS-CoV-2 sample collected.
4	04/20/2021 09:23 AM	Campus Center	1 st Floor Sitting Area	Surface of Table 2	203	105	211	
5	04/20/2021 09:24 AM	Campus Center	1st Floor Sitting Area	Surface of Table 3, Seat 2*	503	105	211	SARS-CoV-2 sample collected.
6	04/20/2021 09:25 AM	Campus Center	1 st Floor Sitting Area	Surface of Table 4, Seat 1*	302	105	211	SARS-CoV-2 sample collected.
7	04/20/2021 09:25 AM	Campus Center	1 st Floor Sitting Area	Surface of Table 5, Seat 3*	393	105	211	SARS-CoV-2 sample collected.
8	04/20/2021 09:26 AM	Campus Center	1 st Floor Sitting Area	Surface of Table 6, Seat 1*	399	105	211	SARS-CoV-2 sample collected.
9	04/20/2021 10:03 AM	Cullimore Hall	104	Surface of Row 1, Seat 2	3	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
10	04/20/2021 10:03 AM	Cullimore Hall	104	Surface of Row 1, Seat 5	5	105	211	
11	04/20/2021 10:04 AM	Cullimore Hall	104	Surface of Row 1, Seat 8	5	105	211	
12	04/20/2021 10:05 AM	Cullimore Hall	104	Surface of Row 3, Seat 1	3	105	211	
13	04/20/2021 10:06 AM	Cullimore Hall	104	Surface of Row 3, Seat 4	15	105	211	
14	04/20/2021 10:06 AM	Cullimore Hall	104	Surface of Row 3, Seat 7	7	105	211	
15	04/20/2021 10:07 AM	Cullimore Hall	104	Surface of Row 3, Seat 10	44	105	211	
16	04/20/2021 10:08 AM	Cullimore Hall	104	Surface of Row 5, Seat 2	7	105	211	
17	04/20/2021 10:08 AM	Cullimore Hall	104	Surface of Row 5, Seat 5	18	105	211	
18	04/20/2021 10:09 AM	Cullimore Hall	104	Surface of Row 7, Seat 1	11	105	211	
19	04/20/2021 10:09 AM	Cullimore Hall	104	Surface of Row 7, Seat 4	5	105	211	
20	04/20/2021 10:10 AM	Cullimore Hall	104	Surface of Row 7, Seat 7	3	105	211	
21	04/20/2021 10:20 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 1, Seat 1	25	105	211	
22	04/20/2021 10:20 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 1, Seat 4	5	105	211	
23	04/20/2021 10:21 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 1, Seat 7	18	105	211	
24	04/20/2021 10:21 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 3, Seat 2	14	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
25	04/20/2021 10:22 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 3, Seat 5	9	105	211	
26	04/20/2021 10:22 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 3, Seat 8	11	105	211	
27	04/20/2021 10:23 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 5, Seat 2	16	105	211	
28	04/20/2021 10:23 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 5, Seat 5	15	105	211	
29	04/20/2021 10:24 AM	Mechanical Engineering Center (MEC)	224	Surface of Row 5, Seat 7	17	105	211	
30	04/20/2021 10:36 AM	GITC	1400	Surface of Row 1, Seat 2	5	105	211	
31	04/20/2021 10:39 AM	GITC	1400	Surface of Row 1, Seat 5	22	105	211	
32	04/20/2021 10:39 AM	GITC	1400	Surface of Row 1, Seat 8	65	105	211	
33	04/20/2021 10:40 AM	GITC	1400	Surface of Row 1, Seat 11	10	105	211	
34	04/20/2021 10:40 AM	GITC	1400	Surface of Row 2, Seat 2	55	105	211	
35	04/20/2021 10:40 AM	GITC	1400	Surface of Row 2, Seat 5	30	105	211	
36	04/20/2021 10:41 AM	GITC	1400	Surface of Row 2, Seat 8	18	105	211	
37	04/20/2021 10:41 AM	GITC	1400	Surface of Row 2, Seat 11	17	105	211	
38	04/20/2021 10:42 AM	GITC	1400	Surface of Row 2, Seat 14	12	105	211	
39	04/20/2021 10:42 AM	GITC	1400	Surface of Row 4, Seat 1	6	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
40	04/20/2021 10:42 AM	GITC	1400	Surface of Row 4, Seat 4	7	105	211	
41	04/20/2021 10:43 AM	GITC	1400	Surface of Row 4, Seat 7	12	105	211	
42	04/20/2021 10:43 AM	GITC	1400	Surface of Row 4, Seat 10	8	105	211	
43	04/20/2021 10:44 AM	GITC	1400	Surface of Row 4, Seat 13	10	105	211	
44	04/20/2021 10:44 AM	GITC	1400	Surface of Row 6, Seat 2	28	105	211	
45	04/20/2021 10:44 AM	GITC	1400	Surface of Row 6, Seat 5	101	105	211	
46	04/20/2021 10:45 AM	GITC	1400	Surface of Row 6, Seat 8	84	105	211	
47	04/20/2021 10:45 AM	GITC	1400	Surface of Row 6, Seat 11	21	105	211	
48	04/20/2021 10:45 AM	GITC	1400	Surface of Row 6, Seat 14	13	105	211	
49	04/20/2021 12:52 PM	Central King Building (CKB)	Basement Study Area	Surface of Table 1, Seat 2	18	105	211	
50	04/20/2021 12:53 PM	Central King Building (CKB)	Basement Study Area	Surface of Table 1, Seat 3	35	105	211	
51	04/20/2021 12:54 PM	Central King Building (CKB)	Basement Study Area	Surface of Table 2, Seat 1	55	105	211	
52	04/20/2021 12:54 PM	Central King Building (CKB)	Basement Study Area	Surface of Table 2, Seat 4	23	105	211	
53	04/20/2021 12:55 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 1	23	105	211	
54	04/20/2021 12:55 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 2	24	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
55	04/20/2021 12:56 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 3	16	105	211	
56	04/20/2021 12:56 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 4	55	105	211	
57	04/20/2021 12:57 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 5	7	105	211	
58	04/20/2021 12:57 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 6	10	105	211	
59	04/20/2021 12:58 PM	Central King Building (CKB)	Basement Study Area	Surface of Round Table 7	17	105	211	
60	04/20/2021 01:12 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 1, Seat 4	45	105	211	
61	04/20/2021 01:12 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 1, Seat 6	198	105	211	
62	04/20/2021 01:13 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 2, Seat 1	38	105	211	
63	04/20/2021 01:13 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 2, Seat 4	59	105	211	
64	04/20/2021 01:14 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 2, Seat 7	17	105	211	
65	04/20/2021 01:14 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 3, Seat 3	118	105	211	
66	04/20/2021 01:15 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 3, Seat 6	29	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
67	04/20/2021 01:15 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 3, Seat 9	92	105	211	
68	04/20/2021 01:16 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 4, Seat 1	31	105	211	
69	04/20/2021 01:17 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 4, Seat 4	24	105	211	
70	04/20/2021 01:17 PM	Faculty Memorial Hall (FMH)	203	Surface of Row 4, Seat 7	93	105	211	
71	04/20/2021 01:34 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 001, Keyboard	44	105	211	
72	04/20/2021 01:35 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 003, Mouse	34	105	211	
73	04/20/2021 01:35 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 007, Keyboard	73	105	211	
74	04/20/2021 01:36 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 014, Mouse	19	105	211	
75	04/20/2021 01:36 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 020, Keyboard	54	105	211	
76	04/20/2021 01:36 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 027, Mouse	45	105	211	
77	04/20/2021 01:37 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 032, Keyboard	15	105	211	
78	04/20/2021 01:37 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 036, Mouse	33	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
79	04/20/2021 01:38 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 039, Keyboard	32	105	211	
80	04/20/2021 01:38 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 047, Mouse	35	105	211	
81	04/20/2021 01:39 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 052, Keyboard	100	105	211	
82	04/20/2021 01:39 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 054, Mouse	91	105	211	
83	04/20/2021 01:40 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 060, Keyboard	162	105	211	
84	04/20/2021 01:40 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 063, Mouse	41	105	211	
85	04/20/2021 01:41 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 068, Keyboard	25	105	211	
86	04/20/2021 01:41 PM	Houten Library	1 st Floor Sitting Area	Surface of Computer CA-1047- 070, Mouse	18	105	211	
87	04/20/2021 01:52 PM	Kupfrian Hall	107	Surface of Row 1, Seat 3	47	105	211	
88	04/20/2021 01:53 PM	Kupfrian Hall	107	Surface of Row 1, Seat 6*	243	105	211	SARS-CoV-2 sample collected.
89	04/20/2021 01:53 PM	Kupfrian Hall	107	Surface of Row 1, Seat 9	122	105	211	
90	04/20/2021 01:54 PM	Kupfrian Hall	107	Surface of Row 2, Seat 1*	246	105	211	SARS-CoV-2 sample collected.
91	04/20/2021 01:54 PM	Kupfrian Hall	107	Surface of Row 2, Seat 4	19	105	211	
92	04/20/2021 01:55 PM	Kupfrian Hall	107	Surface of Row 2, Seat 7	33	105	211	

Test No.	Date	Building	Room	Surface	RLU Result	Lower Control Limit	Upper Control Limit	Notes
93	04/20/2021 01:55 PM	Kupfrian Hall	107	Surface of Row 3, Seat 3*	320	105	211	SARS-CoV-2 sample collected.
94	04/20/2021 01:56 PM	Kupfrian Hall	107	Surface of Row 3, Seat 6	65	105	211	
95	04/20/2021 01:56 PM	Kupfrian Hall	107	Surface of Row 3, Seat 9	137	105	211	
96	04/20/2021 01:57 PM	Kupfrian Hall	107	Surface of Row 4, Seat 1*	289	105	211	SARS-CoV-2 sample collected.
97	04/20/2021 01:57 PM	Kupfrian Hall	107	Surface of Row 4, Seat 4*	296	105	211	SARS-CoV-2 sample collected.
98	04/20/2021 01:58 PM	Kupfrian Hall	107	Surface of Row 4, Seat 7	198	105	211	
99	04/20/2021 02:18 PM	Tiernan Hall	113	Surface of Row 1, Seat 1	17	105	211	
100	04/20/2021 02:19 PM	Tiernan Hall	113	Surface of Row 1, Seat 2	17	105	211	
101	04/20/2021 02:20 PM	Tiernan Hall	113	Surface of Row 3, Seat 1	61	105	211	
102	04/20/2021 02:20 PM	Tiernan Hall	113	Surface of Row 3, Seat 2	28	105	211	
103	04/20/2021 02:21 PM	Tiernan Hall	113	Surface of Row 3, Seat 3	144	105	211	
104	04/20/2021 02:22 PM	Tiernan Hall	113	Surface of Row 3, Seat 4	9	105	211	
105	04/20/2021 02:22 PM	Tiernan Hall	113	Surface of Row 5, Seat 1	139	105	211	
106	04/20/2021 02:23 PM	Tiernan Hall	113	Surface of Row 5, Seat 2	36	105	211	
107	04/20/2021 02:23 PM	Tiernan Hall	113	Surface of Row 5, Seat 3	39	105	211	
108	04/20/2021 02:24 PM	Tiernan Hall	113	Surface of Row 5, Seat 4	32	105	211	

109	04/21/2021 08:37 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 2	176	105	211	
110	04/21/2021 08:38 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 3*	220	105	211	SARS-CoV-2 sample collected.
111	04/21/2021 08:38 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 4	137	105	211	
112	04/21/2021 08:39 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 5	94	105	211	
113	04/21/2021 08:39 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 6	36	105	211	
114	04/21/2021 08:40 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 7	49	105	211	
115	04/21/2021 08:40 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 8	129	105	211	
116	04/21/2021 08:40 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 9	69	105	211	

117	04/21/2021 08:41 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 10 (2)		105	211	
118	04/21/2021 08:41 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 11	40	105	211	
119	04/21/2021 08:42 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 12	158	105	211	
120	04/21/2021 08:42 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 13	65	105	211	
121	04/21/2021 08:43 AM	Life Sciences & Engineering Center (LSEC)	Ground Floor Sitting Area (102)	Surface of Table 14	83	105	211	
122	04/21/2021 08:59 AM	Redwood Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator 1 Call Button, Down	70	105	211	
123	04/21/2021 08:59 AM	Redwood Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator 2 Call Button, Down	92	105	211	
124	04/21/2021 09:00 AM	Redwood Residential Hall	4 th Floor Hallway	4 th Floor Elevator 1 Call Button, Down	75	105	211	
125	04/21/2021 09:00 AM	Redwood Residential Hall	4 th Floor Hallway	4th Floor Elevator 2 Call Button, Down*	219	105	211	SARS-CoV-2 sample collected.
126	04/21/2021 09:00 AM	Redwood Residential Hall	5 th Floor Hallway	5 th Floor Elevator 1 Call Button, Down	1	105	211	

127	04/21/2021 09:01 AM	Redwood Residential Hall	5 th Floor Hallway	5 th Floor Elevator 2 Call Button, Down	4	105	211	
128	04/21/2021 09:12 AM	Cypress Residential Hall	2 nd Floor Hallway	2 nd Floor Elevator Call Button, Down	85	105	211	
129	04/21/2021 09:12 AM	Cypress Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator Call Button, Down*	339	105	211	SARS-CoV-2 sample collected.
130	04/21/2021 09:13 AM	Cypress Residential Hall	4 th Floor Hallway	4 th Floor Elevator Call Button, Down*	534	105	211	SARS-CoV-2 sample collected.
131	04/21/2021 09:13 AM	Cypress Residential Hall	5 th Floor Hallway	5 th Floor Elevator Call Button, Down	194	105	211	
132	04/21/2021 09:14 AM	Cypress Residential Hall	6 th Floor Hallway	6 th Floor Elevator Call Button, Down*	277	105	211	SARS-CoV-2 sample collected.
133	04/21/2021 09:14 AM	Cypress Residential Hall	7 th Floor Hallway	7 th Floor Elevator Call Button, Down*	357	105	211	SARS-CoV-2 sample collected.
134	04/21/2021 09:15 AM	Cypress Residential Hall	8 th Floor Hallway	8 th Floor Elevator Call Button, Down*	1,620	105	211	SARS-CoV-2 sample collected.
135	04/21/2021 10:04 AM	Weston Hall	Studio 256	Surface of Table 1	2	105	211	
136	04/21/2021 10:04 AM	Weston Hall	Studio 256	Surface of Table 2	3	105	211	
137	04/21/2021 10:05 AM	Weston Hall	Studio 256	Surface of Table 3	2	105	211	
138	04/21/2021 10:05 AM	Weston Hall	Studio 256	Surface of Table 4	3	105	211	
139	04/21/2021 10:06 AM	Weston Hall	Studio 256	Surface of Table 5	0	105	211	
140	04/21/2021 10:07 AM	Weston Hall	Studio 256	Surface of Table 6	3	105	211	
141	04/21/2021 10:07 AM	Weston Hall	Studio 256	Surface of Table 7	1	105	211	
142	04/21/2021 10:08 AM	Weston Hall	Studio 256	Surface of Table 8	2	105	211	

143	04/21/2021 10:08 AM	Weston Hall	Studio 256	Surface of Table 9	12	105	211	
144	04/21/2021 10:09 AM	Weston Hall	Studio 256	Surface of Table 10	5	105	211	
145	04/21/2021 10:09 AM	Weston Hall	Studio 256	Surface of Table 12, Seat 3	2	105	211	
146	04/21/2021 10:10 AM	Weston Hall	Studio 256	Surface of Table 12, Seat 4	4	105	211	
147	04/21/2021 10:10 AM	Weston Hall	Studio 256	Surface of Table 12, Seat 7	0	105	211	
148	04/21/2021 10:40 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of 20 lb Dumbbell	111	105	211	Pre-cleaning sample.
149	04/21/2021 10:41 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of 50 lb Jagged Bar, Handle*	252	105	211	Pre-cleaning sample.
150	04/21/2021 10:41 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Decline Bench	27	105	211	Pre-cleaning sample.
151	04/21/2021 10:42 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Smith Machine 3, Right Handle	32	105	211	Pre-cleaning sample.
152	04/21/2021 10:42 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Dip Machine, Right Handle	67	105	211	Pre-cleaning sample.
153	04/21/2021 10:42 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Treadmill 2, Interface	108	105	211	Pre-cleaning sample.
154	04/21/2021 10:43 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Seated Life Cycle Exercise Bike 1, Right Handle*	219	105	211	Pre-cleaning sample.
155	04/21/2021 10:43 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Row Machine, Left Handle	83	105	211	Pre-cleaning sample.
156	04/21/2021 10:44 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Door Push Bar*	283	105	211	Pre-cleaning sample. Fitness Center side of the door.
157	04/21/2021 10:44 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Door Handle*	569	105	211	Pre-cleaning sample. Hallway side of the door.

158	04/21/2021 10:59 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of 50 lb Jagged Bar, Handle	178	105	211	Test No. 149 post-cleaning sample.
159	04/21/2021 10:59 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Seated Life Cycle Exercise Bike 1, Right Handle	16	105	211	Test No. 154 post-cleaning sample.
160	04/21/2021 11:00 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Door Push Bar	21	105	211	Test No. 156 post-cleaning sample. Fitness Center side of the door.
161	04/21/2021 11:00 AM	Wellness Entertainment Center (WEC)	2 nd Floor Fitness Center	Surface of Door Handle	88	105	211	Test No. 157 post-cleaning sample. Hallway side of the door.
162	04/21/2021 01:03 PM	Honors College Residential Hall	1 st Floo r Kitchen	Surface of Faucet Handle	116	105	211	
163	04/21/2021 01:04 PM	Honors College Residential Hall	1st Floor Kitchen	Surface of Microwave Handle	13	105	211	
164	04/21/2021 01:04 PM	Honors College Residential Hall	1st Floor Kitchen	Surface of Refrigerator Handle*	764	105	211	SARS-CoV-2 sample collected.
165	04/21/2021 01:07 PM	Honors College Residential Hall	Elevator Lobby Room 105	1 st Floor "Down" Elevator Call Button, Up	43	105	211	
166	04/21/2021 01:08 PM	Honors College Residential Hall	2 nd Floor Hallway	2 nd Floor "Down" Elevator Call Button, Down*	485	105	211	Elevator Lobby Room 105 side of the building. SARS- CoV-2 sample collected.
167	04/21/2021 01:08 PM	Honors College Residential Hall	3 rd Floor Hallway	3 rd Floor "Down" Elevator Call Button, Down*	264	105	211	Elevator Lobby Room 105 side of the building. SARS- CoV-2 sample collected.
168	04/21/2021 01:08 PM	Honors College Residential Hall	4 th Floor Hallway	4 th Floor "Down" Elevator Call Button, Down*	512	105	211	Elevator Lobby Room 105 side of the building. SARS- CoV-2 sample collected.

169	04/21/2021 01:09 PM	Honors College Residential Hall	5 th Floor Hallway	5 th Floor "Down" Elevator Call Button, Down	108	105	211	Elevator Lobby Room 105 side of the building.
170	04/21/2021 01:09 PM	Honors College Residential Hall	6 th Floor Hallway	6 th Floor "Down" Elevator Call Button, Down*	866	105	211	Elevator Lobby Room 105 side of the building. SARS- CoV-2 sample collected.
171	04/21/2021 01:25 PM	Oak Residential Hall	2 nd Floor Hallway	2 nd Floor Elevator Call Button, Down*	384	105	211	SARS-CoV-2 sample collected.
172	04/21/2021 01:25 PM	Oak Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator Call Button, Down*	216	105	211	SARS-CoV-2 sample collected.
173	04/21/2021 01:26 PM	Oak Residential Hall	4 th Floor Hallway	4 th Floor Elevator Call Button, Down	207	105	211	
174	04/21/2021 01:26 PM	Oak Residential Hall	5 th Floor Hallway	5 th Floor Elevator Call Button, Down*	419	105	211	SARS-CoV-2 sample collected.
175	04/21/2021 01:27 PM	Oak Residential Hall	6 th Floor Hallway	6 th Floor Elevator Call Button, Down	182	105	211	
176	04/21/2021 01:27 PM	Oak Residential Hall	7 th Floor Hallway	7 th Floor Elevator Call Button, Down*	293	105	211	SARS-CoV-2 sample collected.
177	04/21/2021 01:27 PM	Oak Residential Hall	8 th Floor Hallway	8 th Floor Elevator Call Button, Down	121	105	211	
178	04/21/2021 01:34 PM	Laurel Residential Hall	1 st Floor Kitchen	Surface of Faucet Handle	148	105	211	
179	04/21/2021 01:34 PM	Laurel Residential Hall	1 st Floor Kitchen	Surface of Microwave Handle	8	105	211	
180	04/21/2021 01:35 PM	Laurel Residential Hall	1 st Floor Kitchen	Surface of Refrigerator Handle	79	105	211	

181	04/21/2021 01:35 PM	Laurel Residential Hall	2 nd Floor Hallway	2 nd Floor Elevator Call Button, Down	209	105	211	
182	04/21/2021 01:36 PM	Laurel Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator Call Button, Down	123	105	211	
183	04/21/2021 01:40 PM	Laurel Residential Hall	4 th Floor Hallway	4 th Floor Elevator Call Button, Down	167	105	211	
184	04/21/2021 01:41 PM	Laurel Residential Hall	5 th Floor Hallway	5 th Floor Elevator Call Button, Down	40	105	211	
185	04/21/2021 01:41 PM	Laurel (Extension) Residential Hall	2 nd Floor Hallway	2 nd Floor Elevator Call Button, Down	162	105	211	
186	04/21/2021 01:42 PM	Laurel (Extension) Residential Hall	3 rd Floor Hallway	3 rd Floor Elevator Call Button, Down	105	105	211	
187	04/21/2021 01:42 PM	Laurel (Extension) Residential Hall	4 th Floor Hallway	4 th Floor Elevator Call Button, Down	83	105	211	
188	04/21/2021 01:43 PM	Laurel (Extension) Residential Hall	5 th Floor Hallway	5 th Floor Elevator Call Button, Down	106	105	211	
189	04/21/2021 01:43 PM	Laurel (Extension) Residential Hall	6 th Floor Hallway	6 th Floor Elevator Call Button, Down	75	105	211	
190	04/21/2021 01:44 PM	Laurel (Extension) Residential Hall	7 th Floor Hallway	7 th Floor Elevator Call Button, Down	150	105	211	

Field Notes

- Row A or 1 is the row closest to the Instructor.
- Seat numbering starts on the left side of the room, from the perspective of the Instructor.
- All directions and labels are from the perspective of the Instructor, looking towards the seats.
- Only surfaces with elevated or critical pre-cleaning ATP concentrations were tested post-cleaning.

Data Interpretation:

- 30-out-of-190 representative ATP surface samples collected reported elevated ATP levels (15.8% of samples). 4-out-of the 30 samples with elevated ATP levels were pre-cleaning samples. Meaning they were collected before the area was cleaned by NJIT building services.
- In the Wellness Entertainment Center, the average pre-cleaning ATP concentration with 175 RLU, with 40% of the samples indicating elevated ATP levels. The average post-cleaning ATP concentration with 76 RLU, representing a 57% reduction in ATP concentrations.

<u>Surface SARS-CoV-2 Swab Data: 4/20 – 4/21/2021</u>

Sample No.	SARS-CoV-2 Swab Sample Locations	Result (Positive/Negative)
1	Campus Center, 1st Floor Sitting Area, Surface of Amazon Locker, Keypad	Negative
2	Campus Center, 1st Floor Sitting Area, Surface of Table 3, Seat 2	Negative
3	Campus Center, 1st Floor Sitting Area, Surface of Table 4, Seat 1	Negative
4	Campus Center, 1st Floor Sitting Area, Surface of Table 5, Seat 3	Negative
5	Campus Center, 1st Floor Sitting Area, Surface of Table 6, Seat 1	Negative
6	Kupfrian Hall, Room 107, Surface of Row 1, Seat 6	Negative
7	Kupfrian Hall, Room 107, Surface of Row 2, Seat 1	Negative
8	Kupfrian Hall, Room 107, Surface of Row 3, Seat 3	Negative
9	Kupfrian Hall, Room 107, Surface of Row 4, Seat 1	Negative
10	Kupfrian Hall, Room 107, Surface of Row 4, Seat 4	Negative
11	Life Sciences & Engineering Center (LSEC), Ground Floor Sitting Area (Room 102), Surface of Table 3	Negative
12	Redwood Residential Hall, 4th Floor Elevator 2 Call Button, Down	Negative
13	Cypress Residential Hall, 3rd Floor Elevator Call Button, Down	Negative
14	Cypress Residential Hall, 4th Floor Elevator Call Button, Down	Negative
15	Cypress Residential Hall, 6th Floor Elevator Call Button, Down	Negative
16	Cypress Residential Hall, 7th Floor Elevator Call Button, Down	Negative
17	Cypress Residential Hall, 8th Floor Elevator Call Button, Down	Negative
18	Honors College Residential Hall, 1st Floor Kitchen, Surface of Refrigerator Handle	Negative
19	Honors College Residential Hall, 2nd Floor "Down" Elevator Call Button, Down	Negative
20	Honors College Residential Hall, 3rd Floor "Down" Elevator Call Button, Down	Negative
21	Honors College Residential Hall, 4th Floor "Down" Elevator Call Button, Down	Negative
22	Honors College Residential Hall, 6th Floor "Down" Elevator Call Button, Down	Negative
23	Oak Residential Hall, 2nd Floor Elevator Call Button, Down	Negative
24	Oak Residential Hall, 3rd Floor Elevator Call Button, Down	Negative
25	Oak Residential Hall, 5th Floor Elevator Call Button, Down	Negative
26	Oak Residential Hall, 7th Floor Elevator Call Button, Down	Negative

SARS-CoV-2 Air Sample Data: 4/20 – 4/21/2021

Sample No.	SARS-CoV-2 Air Sample Locations	Result (Positive/Negative)
1	Mechanical Engineering Center (MEC), Room 224	Negative
2	Guttenberg Information Technologies Center (GITC), Room 1400	Negative
3	Cullimore Hall, Room 104	Negative
4	Campus Center, 1st Floor Sitting Area	Negative
5	Central King Building (CKB), Basement Study Area (Across from Tutoring Center)	Negative
6	Kupfrian Hall, Room 107	Negative
7	Tiernan Hall, Room 113	Negative
8	Faculty Memorial Hall (FMH), Room 203	Negative
9	Life Sciences & Engineering Center (LSEC), Ground Floor Sitting Area (Room 102)	Negative
10	Wellness Entertainment Center (WEC), 2 nd Floor Fitness Center	Negative
11	Cypress Residential Hall, 1st Floor Lobby	Negative
12	Redwood Residential Hall, 1st Floor Lobby	Negative
13	Honors College Residential Hall, 1st Floor Lobby	Negative
14	Laurel Residential Hall, Vestibule	Negative
15	Laurel (Extension) Residential Hall, 1st Floor Hallway, Next to the Elevator	Negative
16	Weston Hall, Studio 256	Negative

Data Interpretation:

• Laboratory results indicate all the SARS-CoV-2 air samples collected on 4/20 and 4/21/2021 were negative.

Attachments:

Laboratory analysis reports with chain-of-custody

Analytical Test Report

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

Client Project/Name: 21-1040

Sample date: 4-20-2021 Submittal date: 4-20-2021 Sample received: 4-21-2021

Samples submitted by: Ross Hernandez Date analysis completed: April 22, 2021 Prestige Report number: 210421-02

RT-PCR 2019-nCoV:

Presence/Non-Detected Analysis of Air samples for 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)	Presence/ Non- Detected
210421-02-007 01 MEC, Room 224	ND	ND	ND	ND	Non-Detected
210421-02-008 02 GITC, Room 1400	ND	ND	ND	ND	Non-Detected
210421-02-009 03 Cullimore Hall, Room 104	ND	ND	ND	ND	Non-Detected
210421-02-010 04 Campus Center, 1 st Floor Sitting Area	ND	ND	ND	ND	Non-Detected
210421-02-011 05 CKB, Basement Study Area, Next to Tutoring Center	ND	ND	ND	ND	Non-Detected
210421-02-012 06 Kupfrian Hall, Room 107	ND	ND	ND	ND	Non-Detected
210421-02-013 07 Tiernan Hall, Room 113	ND	ND	ND	ND	Non-Detected
210421-02-014 08 FMH, Room 203	ND	ND	ND	ND	Non-Detected

RT-PCR 2019-nCoV: Presence/Non-detection Analysis of Swab samples for the 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)	Presence/ Non- Detected
210421-02-015 01 Campus Center, 1st Floor Sitting Area, Amazon Locker, Keyboard	ND	ND	ND	ND	Non-Detected
210421-02-016 02 Campus Center, 1 st Floor Sitting Area, Table 3, Seat 2	ND	ND	ND	ND	Non-Detected
210421-02-017 03 Campus Center, 1st Floor Sitting Area, Table 4, Seat 1	ND	ND	ND	ND	Non-Detected
210421-02-018 04 Campus Center, 1st Floor Sitting Area, Table 5, Seat 3	ND	ND	ND	ND	Non-Detected
210421-02-019 05 Campus Center, 1st Floor Sitting Area, Table 6, Seat 1	ND	ND	ND	ND	Non-Detected
210421-02-020 06 Kupfrian Hall, Room 107, Row 1, Seat 6	ND	ND	ND	ND	Non-Detected
210421-02-021 07 Kupfrian Hall, Room 107, Row 2, Seat 1	ND	ND	ND	ND	Non-Detected
210421-02-022 08 Kupfrian Hall, Room 107, Row 3, Seat 3	ND	ND	ND	ND	Non-Detected
210421-02-023 09 Kupfrian Hall, Room 107, Row 4, Seat 1	ND	ND	ND	ND	Non-Detected
210421-02-024 05 Kupfrian Hall, Room 107, Row 4, Seat 4	ND	ND	ND	ND	Non-Detected

Report approved:	Theresa Lehman, MPH, Lab Director
Technical Manager: _	QR455
	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. 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.
- 3. 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. 4. ND = not detected, no genetic marker is detected within 40 PCR cycles. NA = not applicable. The detection limit is 10 copies/reaction.
- 5. Sampling reference: Rahmani, A. R., M. Leili, G. Azarian, A. Poormohammadi. 2020. Sampling and detection of corona viruses in air: A mini review. Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2020.140207

Analytical Test Report

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

Client Project/Name: 21-1040

Sample date: 4-21-2021 Submittal date: 4-21-2021 Sample received: 4-22-2021

Samples submitted by: Ross Hernandez Date analysis completed: April 23, 2021 Prestige Report number: 210422-02

RT-PCR 2019-nCoV:

Presence/Non-Detected Analysis of Air samples for 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)	Presence/ Non- Detected
210422-02-031 09 LSEC, Ground Floor Sitting Area, Room 102	ND	ND	ND	ND	Non-Detected
210422-02-032 10 Cypress Hall, 1st Floor Lobby	ND	ND	ND	ND	Non-Detected
210422-02-033 11 Redwood Hall, 1 st Floor Lobby	ND	ND	ND	ND	Non-Detected
210422-02-034 12 WEC, 2 nd Floor Fitness Center	ND	ND	ND	ND	Non-Detected
210422-02-035 13 Honors College Hall, 1 st Floor Lobby	ND	ND	ND	ND	Non-Detected
210422-02-036 14 Laurel Hall, Vestibule	ND	ND	ND	ND	Non-Detected
210422-02-037 15 Laurel (Ext) Hall, 1 st Floor Hallway, Near the Elevator	ND	ND	ND	ND	Non-Detected
210422-02-038 16 Weston Hall, Room 256	ND	ND	ND	ND	Non-Detected

Presence/Non-detection Analysis of Swab samples for the 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)	Presence/ Non- Detected
210422-02-039 11 LSEC, Ground Floor Sitting Area (Room 102), Surface of Table 3	ND	ND	ND	ND	Non-Detected
210422-02-040 12 Redwood Hall, 4 th Floor Elevator 2 Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-041 13 Cypress Hall, 3 rd Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-042 14 Cypress Hall, 4 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-043 15 Cypress Hall, 6 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-044 16 Cypress Hall, 7 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-045 17 Cypress Hall, 8 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-046 18 Honors College Hall, 1 st Floor Kitchen, Refrigerator Handle	ND	ND	ND	ND	Non-Detected
210422-02-047 19 Honors College Hall, 2 nd Floor "Down" Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-048 20 Honors College Hall, 3 rd Floor "Down" Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected

210422-02-049 21 Honors College Hall, 4 th Floor "Down" Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-050 22 Honors College Hall, 6 th Floor "Down" Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-051 23 Oak Hall, 2 nd Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-052 24 Oak Hall, 3 rd Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-053 25 Oak Hall, 5 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected
210422-02-054 26 Oak Hall, 7 th Floor Elevator Call Button, Down	ND	ND	ND	ND	Non-Detected

_	_	
Danast	approved:	
Report	androved.	

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

5. Sampling reference: Rahmani, A. R., M. Leili, G. Azarian, A. Poormohammadi. 2020. Sampling and detection of corona viruses in air: A mini review. Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2020.140207