OLMSTED ENVIRONMENTAL SERVICES, INC
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Date: January 23rd, 2026

To: Alexandrea Ravenelle
333 East 14th Street
Apartment 6NA
New York, NY

aravenelle@gmail.com

Prepared by: Edward Olmsted, CIH, CSP

Project: **Indoor Environmental Testing**
Odor and Dust Infiltration – Apartment 6NA
333 East 14th Street Apartment 6NA, New York, NY

Survey Dates **January 8th through 13th, 2026**

INTRODUCTION

Ed Olmsted conducted an indoor air quality survey in apartment 6NA at 333 East 14th Street in Manhattan, NY. The survey was done in response to concerns of odors and particulate entering from the adjacent apartment number 6B. The inspection including datalogging PM2.5 particulate over 5 days from January 8th through 13th, 2026, and included the following:

1. Interview with the unit owners; and
2. Visual inspection of the apartment; and
3. Using tape lifts to sample surfaces for the presence of combustion by-products; and
4. Datalogging levels of PM2.5 particulate over 5 days.

BACKGROUND

Alexandrea Ravenelle reports that there have been odor episodes in apartment 6NA for an extended period. An air quality device operated in the primary bedroom indicated levels of PM2.5 particulate increased during the odor episodes. The odors and highest levels of PM2.5 were found in the primary bedroom. Further investigation revealed air flowed from the next-door apartment through the electrical outlet on the shared wall. An engineering consultant inspected apartment 6NA and neighboring apartment and tested airflow using smoke tubes. The engineering report prepared by Goldman Copeland Inc. (GoCo) was reviewed as part of this survey. The GoCo survey revealed air moves at a significant velocity from the adjacent apartment 6B through the shared wall into the primary bedroom of 6NA. They found 6B to be under positive pressure and 6NA

under negative pressure. The engineers report identified the mechanical ventilation system as the likely cause. Apartment 6NA has four exhaust vents including two in the master bathrooms, one in the hall bathroom and one in the kitchen. The adjacent apartment 6B had one exhaust vent. The exhaust imbalance causes excessive negative pressure in 6NA compared to 6B. This draws air through the shared wall. This causes cooking and other odors in 6B to migrate rapidly into 6NA. Cooking also creates particulate matter, which will move where the air goes. GoCo also inspected the wall cavity with the borescope. Photos of the wall cavity indicate there is no insulation or barrier inside the wall cavity to impede airflow. The GoCo report also noted plaster debris inside the wall cavity. They recommended balancing the ventilation exhaust system to eliminate the negative pressure condition in 6NA.

The NYC Department of Buildings investigated the complaint and ran airflow tests in the apartment as well. DOB confirmed that air flows from 6B into 6NA through the primary bedroom wall. They measured airflow through the electrical outlet and at the exhausts. They cited the building for not filing the installation of the exhaust fans that serve apartment 6NA. DOB suggested that some of the air flowing through the outlet and bedroom wall was entering through the exterior masonry.

The apartment has sheetrock walls and ceilings, concrete slab finished with hardwood, and operable windows. There are radiators in each room under the window that provide heating and through the wall direct cooled air conditioner units in the primary bedroom and living room.

METHODS

Apartment 6NA was visually inspected and levels of PM2.5 particulate were measured over 5 days. Settled dust samples were collected for microscopic exam to characterize the dust. The following summarizes the sample methods and interpretation of sample results.

Airborne Particulate Datalogging

Airborne dust levels were measured using two TSI Dust Trak II monitors and measured as PM 2.5 (<2.5 microns), which are fine particulate associated with combustion smoke. The TSI Dust trak II instrument was calibrated by the manufacturer. The EPA threshold guide for PM2.5 outdoors is 0.035 milligrams per cubic meter averaged over 24 hours and 9 milligrams per cubic meter annual average. The World Health Organization recommends 0.015 mg/m3 as a 24-hour limit.

Dust Characterization

Pace analyzed two tape lift samples microscopically to characterize the dust. Tape lift samples were collected from surfaces using ¾" wide Scotch Gloss Finish Multitask tape. Dust characterization identifies components of settled dust using direct microscopic exam and staining techniques. Normal house dust is dominated by skin flakes, cellulose (paper fibers), synthetic fibers (carpet and clothing fibers), plant matter, fungal structures, pollen, fiberglass, minerals such

as quartz (plaster), soot and gypsum. Experience and guidelines show components of house dust are generally in the ranges listed below. These are screening levels and are not empirical.

- Cellulose and skin cells always dominated house dust
- Plant matter is usually around 10 to 20%
- Synthetic fibers are usually around 15 to 20%
- Soot or carbonaceous products including charred cellulose <5%
- quartz (silica from construction) < 2%
- gypsum and other minerals <10%
- fiber glass <2%
- insect parts – Trace

FINDINGS

The lab report from Pace labs is attached. The following summarizes the findings and observations:

1. Air was flowing at a high velocity through the electrical outlet in the primary bedroom along the wall shared with 6B.
2. The temperature of the air entering the room at the electrical outlet was 69.0°F. The temperature of the wall at the electrical outlet on the exterior wall was 64°. All other walls were 69°. This does not suggest that outside air entering through the masonry is the source. This confirms the GoCo conclusion that air enters from 6B.
3. Two Dust Trak instruments were set up to measure PM2.5 particulate. One meter was set in the primary bedroom in the vicinity of the electrical outlet but not in the direct airflow. The second was set in the living room at the opposite end of the apartment. Figure 1 provides the scan of the bedroom measurements and figure 2 the living room. The results are described below:
    a. The average PM2.5 in the bedroom over 5 days was 0.019 milligrams per cubic meter (mg/M3). The is above the guideline of 0.015 recommended by the World Health Organization (WHO). It is also over the midtown Manhattan outdoor PM2.5 level of 0.010 mg/m3. The average in the living room over 5 days was 0.013 mg/m3. These data indicate the PM2.5 particulate is entering 6NA from 6B. They also indicate the level of PM2.5 in the bedroom exceeds recommended health limits.
    b. The scans indicate three PM2.5 excursions in the bedroom occurring between 6 and 8 pm on January 8th, between 1:30 and 2:30 pm on January 9th and on January 10 around noon. The family were not home during these two peaks. The levels increase during the day and diminish at night. The living room scans had the same

3 excursions at the same time, but the levels were generally half compared to the bedroom. These data indicate the PM2.5 particulate is entering 6NA from 6B.

c. The days and times of the elevated levels in the primary bedroom are consistent with cooking.
d. The two additional smaller short peaks in the living room were not a result of activity in 6B since levels were low in the 6NA primary bedroom. These two peaks occurred over a very short time.

4. Two dust samples were collected in the primary bedroom including one from the electrical outlet enclosure (#1) and one from settled dust on the top of a bookcase (#2). The results are described below:
    a. Sample 2 from the top of the bookcase reflected typical house dust and was dominate by cellulose, skin flakes, and synthetic fibers.
    b. The sample from the outlet had trace carbonaceous particles (combustion particulate) and 35% gypsum and other minerals (plaster dust). There was also rust and quartz. The gypsum, minerals, quartz and rust are likely from the debris in the wall cavity. The presence of carbonaceous particles in the wall cavity between 6B and 6NA and not on the bookcase in 6NA. This suggests combustion smoke traveling through the wall cavity from 6B to 6NA

CONCLUSIONS

The levels of PM2.5 inside apartment are above the WHO guideline and above the outdoor background level. The particulate levels were highest at the wall shared with 6B. This survey and the GoCo survey indicate that air flows at a high rate through the wall from 6B to 6NA. Occupants of 6NA report that there are food cooking odors in 6NA almost every day. Tests show the levels of PM2.5 are highest in the bedroom sharing a wall with 6B. The tests also show the timing pattern of PM2.5 are consistent with period of cooking. The settled dust readings revealed carbonaceous matter and heavy gypsum and minerals at the outlet but not settled in the room. This also suggests air is moving dust from the apartment and wall cavity through the outlet.

Cooking smoke is a combination of particulate matter, gases and vapors. Breathing these air contaminants over an extended time can cause respiratory irritation and exacerbate asthma. According to the World Health Organization *"Particulate matter and other pollutants in household air pollution inflame the airways and lungs, impair immune response and reduce the oxygen-carrying capacity of the blood."*[1] Studies have shown that repeated exposure to cooking

[1] World Health Organization (WHO); Household Air Pollution; 16 October 2024

oil fume is associated with an increased risk of lung cancer.[2,3,4,5] This survey indicates that PM2.5 particulate enters apartment 6NA as a result of the negative pressure created by the exhaust system and this subjects the occupants to objectionable odors and exposure to levels of PM2.5 that present a health risk.

[2] Yingbo Xue et al; Association Between cooking oil fume exposure among Chinese non-smoking women; a meta analysis; OncoTargets and Therapy; 2016; p 2987

[3] Pan C-H, Chan C-C, Wu K-Y, Effects on Chinese restaurant workers of exposure to cooking oil fumes: a cautionary note on urinary 8-hydroxy-2′ -deoxyguanosine, Cancer Epidemiol. Biomarkers Prev 17(12) (2008) 3351–3357. [DOI] [PubMed]

[4] Ke Y, Cheng J, Zhang Z, Zhang R, Zhang Z, Shuai Z, Wu T, Increased levels of oxidative DNA damage attributable to cooking-oil fumes exposure among cooks, Inhalation Toxicol. 21(8) (2009) 682–687.

[5] Neghab M, Delikhoon M, Baghani AN, Hassanzadeh J, Exposure to cooking fumes and acute reversible decrement in lung functional capacity, Int. J. Occup. Environ. Med 8(4) (2017) 207–216.

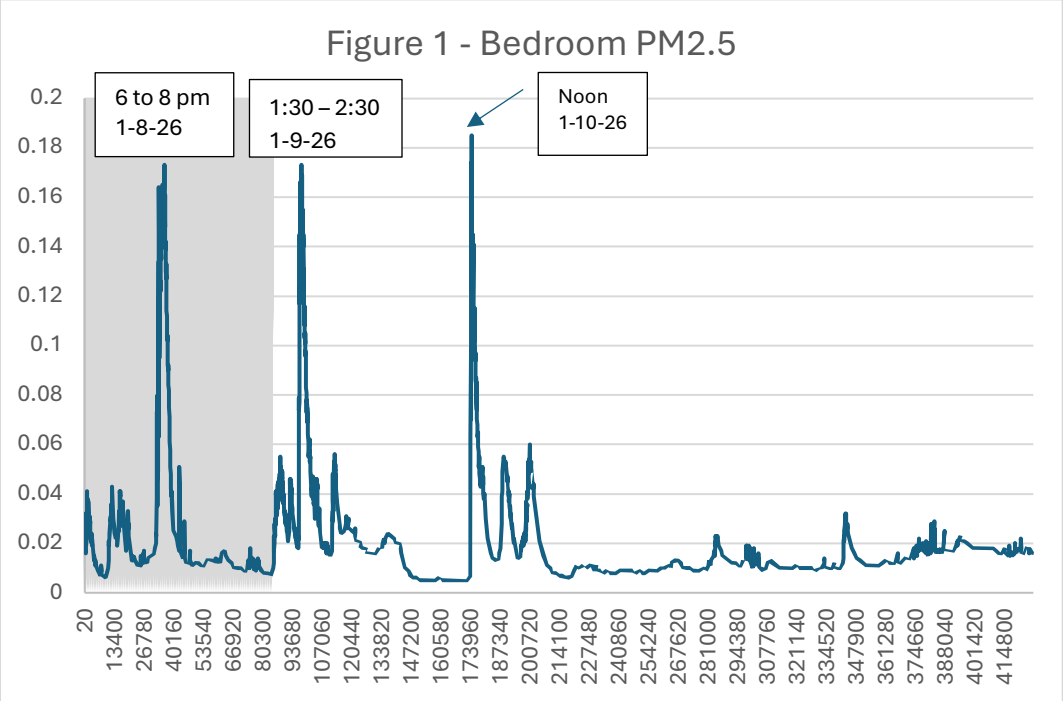

Table 2 333 East 14th Street #6NA - Bedroom PM2.5

Instrument Name	DustTrak II		
Test Name	bedroom 333 e 14		
Test Start Time	11:02:56 AM		
Test Start Date	01/08/2026		
Test Length [D:H:M]	4:22:49		
Test Interval [M:S]	0:20		
Mass Average [mg/m3]	0.019		
Mass Minimum [mg/m3]	0.005		
Mass Maximum [mg/m3]	0.185		
Mass TWA [mg/m3]	0.018		
Number of Samples	21389		
EPA 24-hr average	0.035		
WHO guideline	0.015		
NYC 14th street winter (NYCDEP)	0.0076		

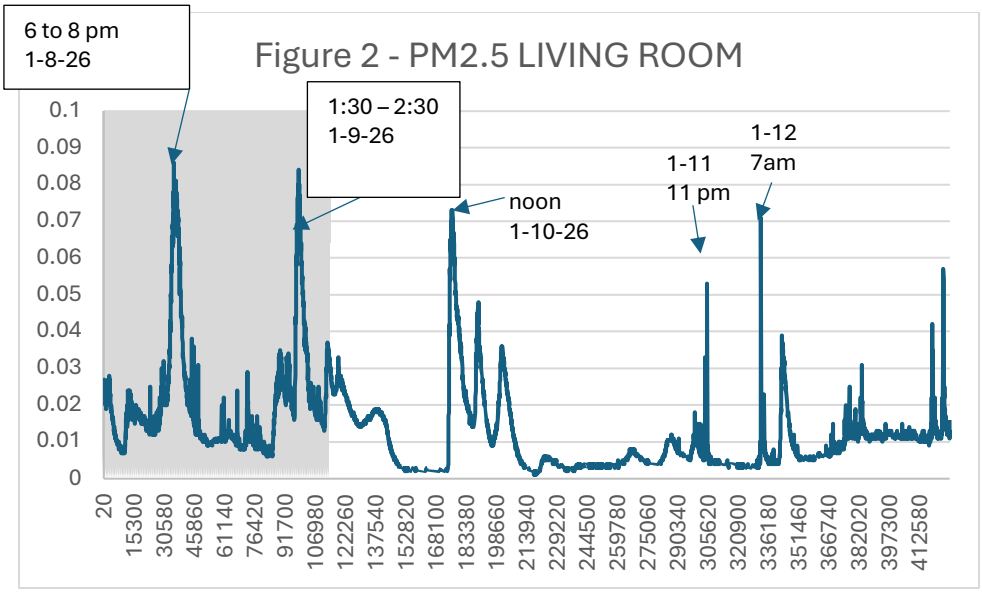

Table 3 LIVING ROOM 333 EAST 14th Street NYC # 6NA

Instrument Name	DustTrak II		
Test Name	LIVING ROOM		
Test Start Time	11:03:46 AM		
Test Start Date	01/08/2026		
Test Length [D:H:M]	4:22:50		
Test Interval [M:S]	0:20		
Mass Average [mg/m3]	0.013		
Mass Minimum [mg/m3]	0.001		
Mass Maximum [mg/m3]	0.086		
Mass TWA [mg/m3]	0.016		
Number of Samples	21392		
EPA 24 hour limit	0.035		
WHO guidelines	0.015		
NYC 14th street winter (NYCDEP)	0.0076		

Building Sciences,
7184 North Park Drive
Pennsauken, NJ 08109
8564861177

Client: Olmsted Environmental Services Inc., 1992 Route 9, Garrison, NY 10524
Client Project/Name: 333 East 14th St Apt 6N
Samples submitted by: Sarah Kinbar
Pace report number: 26000747
Sample date: 1-8-2026
Receipt date: 1-9-2026
Analysis date: January 14, 2026
Date of issue of report: January 14, 2026
Analyst: Kristen Billick / Ching-Yi Tsai, Ph.D.

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Samples submitted by: Sarah Kinbar
Pace report number: 26000747

Microscopic Method (1026): Dust Characterization of Tape-Lift Samples by Optical Microscopy

Pace # Sample ID Location	26000747-001 333E14-1 MBR outlet	26000747-002 333E14-2 MBR shelf
Carbonaceous particles	Trace	-
Cellulose fibers	15%	55%
Fungal matter	Trace	Trace
Gypsum dust/mineral deposits	35%	10%
Human hairs	-	1%
Insect parts	-	Trace
Pine pollen		Trace
Plant matter/trichome	1%	2%
Pollen	-	Trace
Quartz/fine sands	1%	-
Rust particles	1%	-
Skin flakes	40%	15%
Synthetic fibers	5%	15%
Misc.	2%	2%
Total %	100%	100%
Dust load rating	3	4

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Samples submitted by: Sarah Kinbar
Pace report number: 26000747

Condition of Sample(s) Upon Receipt: Acceptable

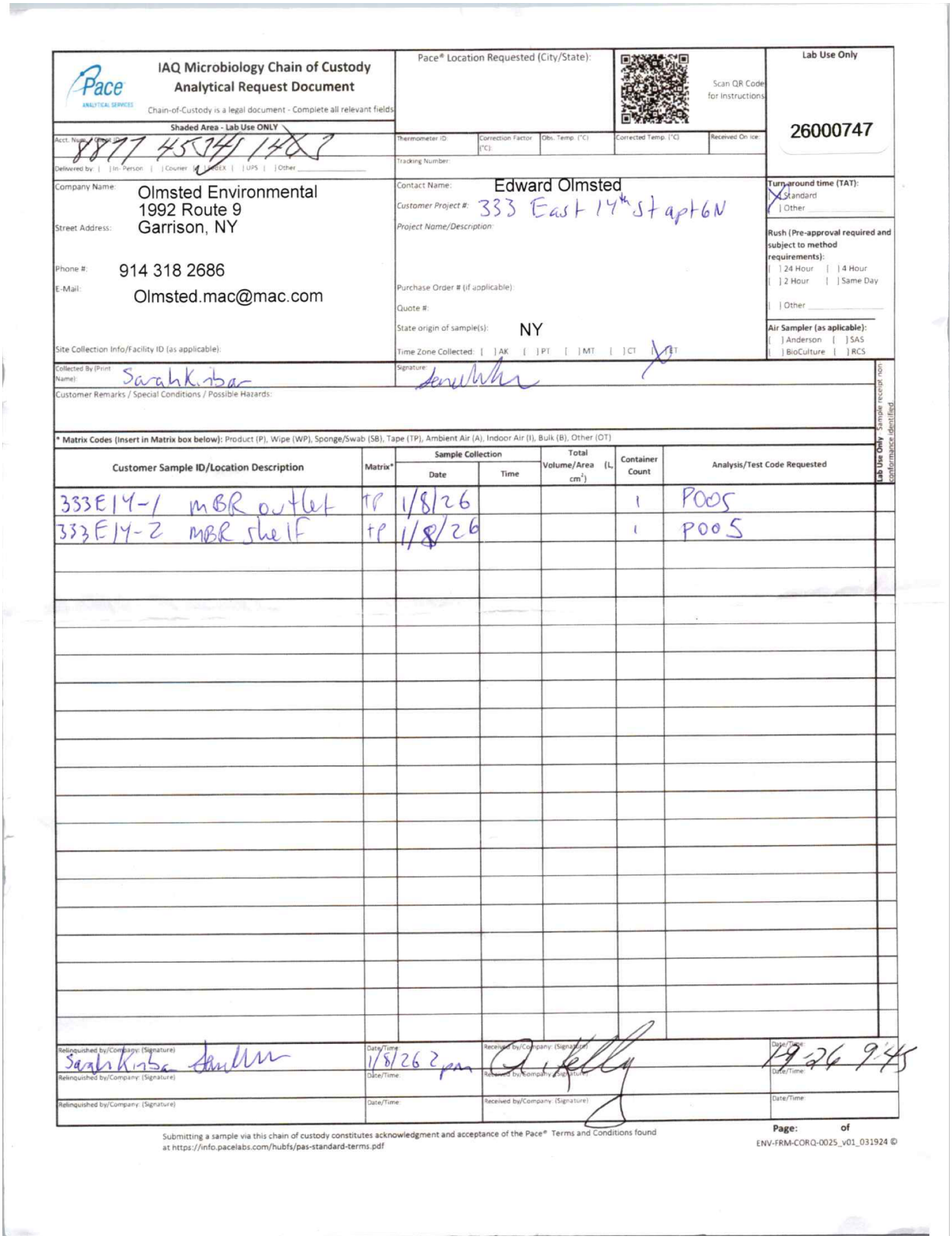
Footnotes and Additional Report Information

1. Fungal density rating 1-5 (1 being the lowest and 5 the highest) indicates density of fungal growth structures observed. No fungal density is provided for loose spores, hyphal fragments and other structures. (<1) is used to indicate a light fungal density. NA=not applicable. ND=not detected.
2. Growth coverage, if provided, is based on estimation of the entire bulk sample surface on all sides.
3. Fungal contamination is noted when an analyst, at times during sample analysis, can differentiate the unusual compositions (types or numbers) of fungal spores or structures from background fungal composition.

Signature Page

Results relate only to the items tested or calibrated and may be reported as rounded values. The test report shall not be reproduced, except in full, without written approval of Pace® Analytical Services, LLC. Pace® Building Sciences does not provide sampling services. Results relate to the accuracy of the information provided with the Chain of Custody and as the samples were received. Data interpretation of this report will be the responsibility of the client.
Unless qualified or notated on this report, all sample aliquots were received in conditions acceptable to perform the analysis. All method and batch quality controls are within established criteria except where addressed in report comments. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Dr. Michael Berg
Technical Director



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26000747

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Acct. Num. / Client ID: 8877 4514 1463

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Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	Received On Ice:

Tracking Number:

Company Name: Olmsted Environmental
Street Address: 1992 Route 9, Garrison, NY
Phone #: 914 318 2686
E-Mail: Olmsted.mac@mac.com

Contact Name: Edward Olmsted
Customer Project #: 333 East 14th st apt 6N
Project Name/Description:
Purchase Order # (if applicable):
Quote #:
State origin of sample(s): NY
Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

Site Collection Info/Facility ID (as applicable):

Turn-around time (TAT):
[X] Standard
[ ] Other

Rush (Pre-approval required and subject to method requirements):
[ ] 24 Hour [ ] 4 Hour
[ ] 2 Hour [ ] Same Day
[ ] Other

Air Sampler (as aplicable):
[ ] Anderson [ ] SAS
[ ] BioCulture [ ] RCS

Collected By (Print Name): Sarah Kibar
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

Lab Use Only: Sample receipt non conformance identified

*** Matrix Codes (Insert in Matrix box below):** Product (P), Wipe (WP), Sponge/Swab (SB), Tape (TP), Ambient Air (A), Indoor Air (I), Bulk (B), Other (OT)

Customer Sample ID/Location Description	Matrix*	Sample Collection Date	Sample Collection Time	Total Volume/Area (L, cm²)	Container Count	Analysis/Test Code Requested
333E14-1 MBR outlet	TP	1/8/26			1	P005
333E14-2 MBR shelf	TP	1/8/26			1	P005

Relinquished by/Company: (Signature)	Date/Time	Received by/Company: (Signature)	Date/Time
Sarah Kibar	1/8/26 2pm		
Relinquished by/Company: (Signature)	Date/Time	Received by/Company: (Signature)	Date/Time
			1/9/26 9:45
Relinquished by/Company: (Signature)	Date/Time	Received by/Company: (Signature)	Date/Time

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