

**AMBIENT AIR SAMPLING REPORT
40 RECTOR STREET**

**September 20 – 28, 2001
and
October 22 – 23, 2001**

Prepared for

**40 RECTOR HOLDINGS, LLC
c/o
TANNENBAUM HELPERN SYRACUSE & HIRSCHTRITT LLP
900 Third Avenue
New York, NY 10022-4775**

Prepared by:

**ATC Associates Inc.
104 East 25th Street
Tenth Floor
New York, NY 10010**

**ATC Project No.:19855-0001
October 25, 2001**

PREPARED BY:



Fred Burkhardt, Senior Project Manager

40 Rector Holdings, LLC
C/O Tannenbaum Helpert Syracuse & Hirschtritt LLP
Ambient Air Sampling - 40 Rector Street

ATC Project No.: 19855-0001
October 25, 2001
Page 1 Of 7

General

ATC Associates Inc. (ATC), was retained by 40 Rector Holdings LLC to provide ambient air sampling on floors 1 through 19 in concert with a two phase building-wide cleaning program and to perform a general indoor air quality (IAQ) assessment of the building following the collapse of the World Trade Center Buildings. The purpose of the ambient air sampling was to ascertain the presence or absence of airborne asbestos, whereas, the IAQ assessment was to determine ambient temperature, relative humidity, carbon dioxide (CO₂), carbon monoxide (CO), respirable particulates and total volatile organic compounds (TVOC) as compared to commonly accepted guidelines within the occupied spaces of 40 Rector Street.

Ambient air sampling services were provided on September 27 – 28, 2001 upon completion of the initial cleaning of the entire building, and between October 22 –23, 2001 upon completion of the subsequent cleaning of the entire building. IAQ services were provided on October 1, 2001.

Per ATC proposals 15-2001-0909121, 121a, & 121b, the work performed involved the collection of ambient air samples from representative locations on each occupied floor and the collection of representative IAQ measurements. All ambient air samples were collected and analyzed in accordance with the AHERA Transmission Electron Microscopy (TEM) method as set forth at 40 CFR Part 763, Subpart E, Appendix A. ATC has selected as a criteria for acceptable ambient air sample sets, the AHERA re-occupancy requirement following an asbestos abatement action of an average of less than 70 asbestos structures per square millimeter (<70 s/mm²) per sample set. All sample sets collected met the AHERA requirement at the time of testing; this criteria is appropriate even though the cleaning events were not conducted as asbestos abatement projects because the AHERA requirement is a stringent reoccupancy requirement which is designed to be protective of children (which is a more sensitive occupancy than the expected users of the building). All IAQ parameters measured during the IAQ assessment were within recommended guideline ranges. However, at the time of sampling, an odor of smoke was detected in several locations within the subject building. This odor infiltrated the building from fires at the nearby World Trade Center site. This odor does not constitute a health hazard although building occupants may consider the odor unpleasant and annoying. Sensitive individuals, such as asthmatics, may find the odor irritating. As a potential remedy to the odor, ATC provided a recommendation on October 2, 2001 for steps to minimize the odor entrainment into the building. The recommendation suggested that the building consider installing charcoal-impregnated filters on the HVAC system intakes to reduce odor entrainment; restrict to the extent possible access to the lobby via the revolving door only which would minimize odor infiltration and limit odor movement via the elevator shafts; and to perform daily wet-wiping and mopping of the lobby with a standard cleaner or detergent solution. As of October 23, 2001, all three recommendations have successfully been implemented with satisfactory results in reducing odor entrainment into the building.

40 Rector Holdings, LLC
 C/O Tannenbaum Helpen Syracuse & Hirschtritt LLP
 Ambient Air Sampling - 40 Rector Street

ATC Project No.: 19855-0001
 October 25, 2001
 Page 2 Of 7

Based upon analytical sample results following both cleaning episodes recording levels within the AHERA clearance requirement, it is ATC's opinion that the ambient air samples collected and IAQ measurements collected throughout the building are representative of the ambient conditions at the time of testing and that the areas tested meet an acceptable criterion for re-occupancy.

Ambient Air Sampling – Initial Cleaning

Between September 20 and 28, 2001, ATC collected a minimum of five ambient air samples per floor representative of ambient air conditions following the initial cleaning of 40 Rector Street. All field generated air monitoring data and chain of custody forms and laboratory generated analytical data is included in Attachment 2 at the end of this report. A summary of the data is provided in Table 1.

Table 1 Summary of Ambient Air Sample Results Initial Cleaning

Floor	Analytical Result	Floor	Analytical Result
1	No structures detected	10	All samples <70 s/mm ²
2	All samples <70 s/mm ²	11	All samples <70 s/mm ²
3	All samples <70 s/mm ²	12	All samples <70 s/mm ²
4	All samples <70 s/mm ²	14	All samples <70 s/mm ²
5	Sample set average 23 s/mm ²	15	All samples <70 s/mm ²
6	All samples <70 s/mm ²	16	No structures detected
7	All samples <70 s/mm ²	17	All samples <70 s/mm ²
8	All samples <70 s/mm ²	18	All samples <70 s/mm ²
9	All samples <70 s/mm ²	19	All samples <70 s/mm ²

Based upon the analytical results recording levels within the AHERA clearance requirement, it is ATC's opinion that the ambient air samples collected throughout the building are representative of the ambient conditions at the time of testing and that the areas tested meet an acceptable criterion for re-occupancy.

Ambient Air Sampling – Subsequent Cleaning

Between October 22 and 23, 2001, ATC collected a minimum of five ambient air samples per floor representative of ambient air conditions following the subsequent cleaning of 40 Rector Street. All field generated air monitoring data and chain of

40 Rector Holdings, LLC
C/O Tannenbaum Helpert Syracuse & Hirschtritt LLP
Ambient Air Sampling - 40 Rector Street

ATC Project No.: 19855-0001
October 25, 2001
Page 3 Of 7

custody forms and laboratory generated analytical data is included in Attachment 2 at the end of this report. A summary of the data is provided in Table 2.

Table 2 Summary of Ambient Air Sample Results

Floor	Analytical Result	Floor	Analytical Result
1	No structures detected	10	No structures detected
2	No structures detected	11	No structures detected
3	No structures detected	12	No structures detected
4	No structures detected	14	No structures detected
5	No structures detected	15	No structures detected
6	No structures detected	16	No structures detected
7	No structures detected	17	No structures detected
8	No structures detected	18	No structures detected
9	No structures detected	19	No structures detected

Based upon the analytical results recording levels within the AHERA clearance requirement, it is ATC's opinion that the ambient air samples collected throughout the building following the subsequent cleaning met an acceptable criterion for re-occupancy.

IAQ Evaluation

The IAQ evaluation included collection of real-time measurements of temperature, relative humidity, carbon dioxide (CO₂), carbon monoxide (CO), respirable particulates and total volatile organic compounds (TVOC). Currently, there are no regulatory standards for indoor air quality in non-industrial buildings, such as offices and schools. For the real-time data collected, ATC uses the commonly accepted guidelines cited in the following publications:

- *Ventilation for Acceptable Indoor Air Quality (ASHRAE 62-1999)*, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE);
- *Thermal Environmental Conditions for Human Occupancy (ASHRAE 55-1992)*;
- *Industrial Hygienists Guide to Indoor Air Quality Investigations (1993)*, American Industrial Hygiene Association (AIHA).

Table 3 on the following page lists target guidelines for the parameters that ATC evaluated during this investigation.

40 Rector Holdings, LLC
 C/O Tannenbaum Helpern Syracuse & Hirschtritt LLP
 Ambient Air Sampling - 40 Rector Street

ATC Project No.: 19855-0001
 October 25, 2001
 Page 4 Of 7

TABLE 3 -TARGET GUIDELINES FOR INDOOR AIR QUALITY PARAMETERS EVALUATED

PARAMETER	TARGET LEVEL	AGENCY OR ORGANIZATION
Carbon Dioxide (CO ₂)	<700 parts per million (ppm) above background level	ASHRAE 62
Carbon Monoxide (CO)	9 ppm	USEPA NPAAQS (as cited in ASHRAE 62)
Respirable Particles (PM ₁₀)	50 micrograms per cubic meter of air (µg/m ³)	USEPA NPAAQS (as cited in ASHRAE 62)
Temperature	Summer: 73-79°F at 50% RH Winter: 68-75°F at 50% RH	ASHRAE 55
Relative Humidity	30 – 60 %	ASHRAE 55
Total Volatile Organic Compounds (TVOC)	1 ppm	AIHA

USEPA = United States Environmental Protection Agency
 NPAAQS = National Primary Ambient-Air Quality Standard
 AIHA = American Industrial Hygiene Association

REAL-TIME MONITORING

ATC collected readings of the six listed parameters within representative areas inside the building and one set of readings outside of and adjacent to the building. The indoor air quality field reports are included in Attachment 1 at the end of this report. These areas were unoccupied at the time of this assessment.

All parameters measured during the IAQ assessment were within recommended guideline ranges, however, an odor of smoke was detected in several locations. This odor infiltrated the building from fires at the nearby World Trade Center site. This odor does not constitute a health hazard although building occupants may consider the odor unpleasant and annoying. Sensitive individuals, such as asthmatics, may find the odor irritating. As a potential remedy to the odor, ATC provided a recommendation on October 2, 2001 for building operation modifications to minimize the odor entrainment into the building. The recommendation suggested that the building consider installing charcoal-impregnated filters on the HVAC system intakes to reduce odor entrainment;

40 Rector Holdings, LLC
C/O Tannenbaum Helpert Syracuse & Hirschtritt LLP
Ambient Air Sampling - 40 Rector Street

ATC Project No.: 19855-0001
October 25, 2001
Page 5 Of 7

restrict to the extent possible access to the lobby via the revolving door only which would minimize odor infiltration and limit odor movement via the elevator shafts; and to perform daily wet-wiping and mopping of the lobby with a standard cleaner or detergent solution. As of October 23, 2001, all three recommendations have successfully been implemented with satisfactory results in reducing odor entrainment into the building.

Summary

Based upon the analytical results following the initial and subsequent cleaning phases of 40 Rector Street recording levels within the AHERA clearance requirement, ATC's concludes that the ambient air samples and IAQ measurements collected throughout the building and building operation modifications performed are representative of the ambient conditions at the time of testing and that the areas tested meet an acceptable criterion for re-occupancy.