Grubb&Ellis.
Property Solutions Worldwide

June 27, 2005

Mr. Michael Gilsenan
DEP
59-17 Junction Blvd., 11th floor
Corona, NY 11368-5107

Dear Mr. Gilsenan:

Attached please find copy for your files of EHRA (Environmental Health Risk Assessment) dated November 20, 2002 which was performed at 22 Cortlandt Street, New York, NY after post 9/11 cleanup was completed.

As you can see cleanup was completed and the results indicate that building is safe to be occupied.

Sincerely Yours,

Abe New
Property Manager

cc: Moshe Drizin

Grubb & Ellis Management Services, Inc.
22 Cortlandt Street 11th floor New York, New York 10007 212.587.8580 212.587.8495 fax

Grubb & Ellis
Knight Frank
Global

ENVIRONMENTAL HEALTH RISK ASSESSMENT
Of
22 Cortlandt Street
New York, NY

November 20, 2002

Prepared For:
GAB ROBINS NORTH AMERICAN, INC.
116 JOHN STREET, 24th FLOOR
NEW YORK, NY 10038

Prepared By:

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PROJECT NUMBER Y2-1458

Hillmann Environmental Group, LLC

November 20, 2002

PRELIMINARY INDOOR AIR QUALITY DATABASE

PROJECT NUMBER:	**Y2-1458**
SUBJECT PROPERTY:	**22 Cortlandt Street** **New York, NY**
DATE OF SITE ASSESSMENT:	**October 19, 2002**
ASSESSMENT PERSONNEL:	**Craig Downs** **Project Manager** **Shane Bielawski** **Site Professional** **Jennifer M. Brown, IHT** **Site Professionals** **HILLMANN ENVIRONMENTAL GROUP, LLC**
REPORT REVIEWED BY:	**Jennifer L. Collins, IH, CHMM** **Project Manager** **HILLMANN ENVIRONMENTAL GROUP, LLC**

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SECTION 1 – EXECUTIVE SUMMARY

1.1 General

On October 19, 2002, Mr. Craig Downs, Mr. Shane Bielawski and Ms. Jennifer M. Brown, IHT, of Hillmann Environmental Group, LLC (Hillmann), conducted a follow up limited Environmental Health Risk Assessment of 22 Cortlandt Street, New York, NY. An EHRA was performed throughout 22 Cortlandt Street in response to the collapse of the World Trade Center in February 2002. This assessment was performed as a follow up to the original EHRA in response to tenant and building management (i.e. Cushman and Wakefield) concerns to ensure that the indoor air quality is currently at acceptable standards.

Hillmann's site investigator performed a visual inspection for selected conditions that could negatively impact indoor air quality. The investigator measured temperature, relative humidity, carbon dioxide, carbon monoxide, respirable dust, mercury and collected samples for volatile organic compounds, , PCBs, dioxins, fungal spores, total dust, and asbestos.

1.2 Findings

- On the day of the investigation, inside the building, temperature and relative humidity readings were collected. Temperatures ranged from 67°F to 74°F and relative humidities ranged from 36% to 50%. The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) recommends that temperatures stay within the range of 66°F to 76°F and that relative humidities stay within the range of 30% to 60%. Temperatures were below the recommended range. Relative humidities were within the recommended range.

- Observed carbon dioxide levels in the subject space ranged from 506 ppm to 748 ppm. ASHRAE recommends that carbon dioxide levels remain below an outdoor reading plus 700 ppm. Since the outdoor reading was 390 ppm, the recommended limit is 1090 ppm. Carbon dioxide levels were below the recommended limit.

- Measured carbon monoxide levels ranged from 0 ppm to 1 ppm in the subject space. These levels are below the Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) of 9 ppm.

- For respirable dust, the American Conference of Governmental Industrial Hygienists (ACGIH) recommends a Threshold Limit Value (TLV) of 3.0 mg/m^3 and the Occupational Safety and Health Administration (OSHA) has a Permissible Exposure Limit (PEL) of 5.0 mg/m^3 Respirable dust levels ranged from 0.017 mg/m^3 to 0.66 mg/m^3. Dust levels were below the recommended limits in the subject space.

- The American Conference of Governmental Industrial Hygienists (ACGIH) recommends that dust levels remain below 10 (check this first) mg/m^3. The total dust amounts ranged from below the limit of detection of LOD to 0.083 mg/m^3.

- Mercury vapor levels were measured in the subject space and remained below the limit of detection of 0.001 mg/m^3 and therefore below the ACGIH recommended limit of 0.025 mg/m^3.

- Levels of PCBs present in air were found to be below the limit of detection and therefore below the ACGIH recommended limit of 1.26 mg/m^3.

- The volatile organic compound levels determined by sample analysis ranged from 0.056 mg/m^3 to 0.67 mg/m^3 throughout the subject space. Hillmann recommends a limit of 1.7 mg/m^3 determined by sample analysis for these compounds. These levels were below our recommended limit.

- Levels of metal fumes, specifically those that may result from the continual burning and welding that has occurred at the World Trade Center site, were all found to be below the limit of quantification, and therefore below all recommended limits.

- Dioxin levels determined by sample analysis ranged from 0.008 ng to 0.015 ng. Hillmann recommends a limit of 25 ng determined by sample analysis for these compounds. These levels were below our recommended limit.

- Levels of airborne asbestos fibers ranged from the limit of detection to 0.0049 fibers/cc, and well below the New York City's "Clearance Criteria, and the US EPA's "Clean Air" guideline of 0.01 fibers/cc.

- Fungal Spores were found to be below the level of outdoor comparison samples and similar in species diversity. The building does not appear to be amplifying microbial growth.

SECTION 2 - INTRODUCTION

2.1 General. On October 19, 2002, Mr. Craig Downs, Project Manager, Mr. Shane Bielawski, IHT and Ms. Jennifer Brown, IHT, of Hillmann Environmental Group, LLC (Hillmann), conducted an Environmental Health Risk Assessment of 22 Cortlandt Street, New York, NY. This investigation was conducted under the supervision of John B. Glass, Jr., CIH, CSP; an ABIH certified Industrial Hygienist. The work was performed for GAB Robins North America Inc., and Cushman and Wakefield Management. The survey is designed to identify common indoor air contaminants.

Hillmann's site investigator performed a visual inspection for conditions that could negatively impact indoor air quality. The investigator measured temperature, relative humidity, carbon dioxide, carbon monoxide, respirable dust, and collected samples for volatile organic compounds, silica and total dust, PCB, mercury, metal fumes, dioxins, and asbestos.

The inspection and sampling are performed by trained industrial hygienists using Environmental Protection Agency (EPA) and National Institute for Occupational Safety and Health (NIOSH) sampling techniques. Samples are analyzed at an appropriately accredited laboratory. These samples, representative of a narrow time frame, are for screening purposes only and are not intended to represent definitive exposure levels.

2.2 Sampling Parameters and Methodology. Hillmann selected the sampling parameters based on consultations with the client, the laboratories performing the analysis and our in-house experts. The chosen parameters are direct reading measurement of temperature, relative humidity, carbon dioxide, carbon monoxide, respirable dust, and mercury, and collected samples for volatile organic compounds, dioxins, and Polychlorinated Biphenyls (PCBs). The inspection is a general screening to identify if potential hazards exist.

The industrial hygienist employed a sampling scheme that is representative of the average working environment and accounts for the subject space. Sampling parameters were based on common indoor air pollutants and were selected based upon consultations with our client, advise from the analytical laboratory and Hillmann's professional judgment.

I. Temperatures and relative humidity levels were measured using a TSI Q-Track 8551 direct reading monitor.

II. Carbon Dioxide (CO_2) concentrations were measured using a TSI Q-Track 8551 direct reading monitor that measures CO_2 from 0-5000 ppm in 1 ppm increments.

III. Carbon Monoxide (CO) concentrations were measured by a TSI Q-Track 8551 direct reading monitor which measures CO from 0-500 ppm in 1 ppm increments.

IV. Respirable Dust (RD) concentrations were determined by a direct reading, MIE pdm-3, Miniram monitor calibrated to an average aerodynamic diameter of 10 micrometers with a limit of detection of 0.001 mg/m^3. This method is consistent with the United States Environmental Protection Agency National Ambient Air Quality Standard (NAAQS).

V. Total dust samples were collected by drawing air through a 32 mm, 0.5 micron polyvinyl chloride (PVC) filter. An accredited laboratory then analyzed the samples by an X-ray diffraction method in accordance with the NIOSH 7500 Method.

VI. Mercury vapors were measured using a Jerome, Model 431X Mercury Vapor Data logging Analyzer, with a limit of detection of 0.001 mg/m^3.

VII. PCB samples were collected by drawing air through a 150 mg florisil treated tube. This tube was then sent to an accredited laboratory and analyzed by Capillary Gas Chromatography, as per the NIOSH 5503 Method.

VIII. Volatile organic compound samples were taken by drawing air through a 150 mg charcoal tube. An accredited laboratory analyzesd the charcoal tube by Capillary Gas Chromatography/Flame Ionization Detector (GC/FID), as per the NIOSH 1500 Method. The Method 1500 analysis quantifies the total amount of airborne volatile organic compounds in each charcoal tube sample. These are common petroleum based indoor air pollutants. Limits of detection for this method vary with the volume of air sampled.

IX. The site investigator collected metal fume samples by drawing air through a 32 mm 0.8 micron MCE filter. An accredited laboratory analyzed the filter by an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) technique. In particular, these samples were analyzed for metals that are common from welding, and the burning of metal debris that would be consistent with the World Trade Center site.

X. Dioxin samples were collected on prepared wipe sampling kits which have been previously spiked by the analytical laboratory to enhance the reliability and sensitivity of the sample. Samples were analyzed in accordance with method 82-90 revision 0 (/94). "Analysis of samples for the presence of polychlorinated dibenzo-*p*-dioxins and dibenzofurans by high resolution chromatography/high resolution mass spectrometry. The limits of detection for this method vary with the area of the surface sample

XI. Airborne Asbestos concentrations were determined by drawing air through a 25 mm, 0.45 um pore size, "TEM" cassette, for a minimum of 1,300 Liters. The samples were then analyzed by Transmission Electron Microscopy, conducted by an appropriately accredited laboratory, in accordance with NIOSH Method 7402.

XII. Airborne fungal spore were collected on Air-O-Cell® cassettes and sent to an appropriately accredidet laboratory for analysis by optical microscopy. Thes samples were both quantitatively analyzed and qualitatively speciated to the Genus level on a presumptive identification.

SECTION 3 - RESULTS

3.1 **Temperature (Temp), Relative Humidity (RH), Carbon Dioxide (CO_2), Carbon Monoxide (CO), Respirable Dust (RD), Total Dust (TD), Mercury (Hg), Polychlorinated Biphenyls (PCBs) and Volatile Organic Compounds (VOCs).**

Sample Location #1: Lobby

Parameter	TEMP. (^{0}F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m^3	TD (mg/m^3)	Hg (mg/m^3)	PCBs (mg/m^3)	VOCs (mg/m^3)
TARGET RANGE	66^0 to 76^0	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	40%	551	0	.066	LOD	--	LOD	0.67

Sample Location #2: 5th Floor

Parameter	TEMP. (^{0}F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m^3	TD (mg/m^3)	Hg (mg/m^3)	PCBs (mg/m^3)	VOCs (mg/m^3)
TARGET RANGE	66^0 to 76^0	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	74°	38%	748	0	.045	LOD	LOQ	LOD	0.18

Sample Location #3: 6th Floor

Parameter	TEMP. (^{0}F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m^3	TD (mg/m^3)	Hg (mg/m^3)	PCBs (mg/m^3)	VOCs (mg/m^3)
TARGET RANGE	66^0 to 76^0	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	74°	41%	678	0	.034	--	--	--	--

Sample Location #4: 7th Floor

Parameter	TEMP. (^{0}F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m^3	TD (mg/m^3)	Hg (mg/m^3)	PCBs (mg/m^3)	VOCs (ppm)
TARGET RANGE	66^0 to 76^0	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	40%	631	0	.060	--	--	--	--

Sample Location #5: 8th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	69°	46%	581	0	.032	--	--	--	--

Sample Location #6: 9th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	50%	612	0	.029	0.042	--	--	0.056

Sample Location #7: 10th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	50%	581	0	.035	--	--	--	--

Sample Location #8: 11th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	40%	574	0	.034	LOD	LOQ	LOD	0.34

Sample Location #9: 12th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	70°	37%	569	0	.027	--	--	--	--

Sample Location #10: 14th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	69°	38%	705	0	.017	--	--	--	--

Sample Location #11: 15th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD mg/m³	TD (mg/m)	Hg (mg/m)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	67°	41%	582	0	.028	0.083	--	--	0.24

Sample Location #12: 16th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	68°	39%	674	0	.036	--	--	--	--

Sample Location #13: 17th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	68°	42%	579	0	.050	LOD	--	--	0.47

Sample Location #14: 18th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	68°	38%	5740???	0	.055	--	--	--	--

Sample Location #15: 19th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	69°	37%	580	0	.016	LOD	LOQ	LOD	0.11

Sample Location #16: 20th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	74°	38%	740	0	.020	--	--	--	--

Sample Location #17: 21st Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	74°	38%	561	0	.022	LOD	--	--	0.11

Sample Location #18: 22nd Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	42%	662	0	.046	--	--	--	--

Sample Location #19: 23rd Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	42%	653	0	.067	--	--	--	--

Sample Location # 20: 24th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	40%	687	0	.019	LOD	LOQ	LOD	0.12

Sample Location #21: 25th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	72°	41%	754	0	.041	--	--	--	--

Sample Location #22: 26th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	70°	37%	590	0	.032	--	--	--	--

Sample Location #23: 27th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	39%	668	0	.061	--	--	--	--

Sample Location #24: 28th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	36%	506	0	.056	LOD	--	LOD	0.12

Sample Location #25: 29th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	72°	40%	631	0	.026	--	--	--	--

Sample Location #26: 30th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	41%	604	0	.070	--	--	--	--

Sample Location #27: 31st Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	43%	655	0	.031	LOD	--	LOD	0.14

Sample Location #28: 32nd Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	41%	568	0	.029	--	--	--	--

Sample Location #30: 33rd Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	74°	37%	578	0	.028	--	--	--	--

Sample Location #31: 34th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (ppm)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	71°	41%	590	0	.027	LOD	LOQ	--	0.097

Sample Location #32: 35th Floor

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs (mg/m³)	VOCs (mg/m³)
TARGET RANGE	66° to 76°	30% to 60%	<	<9	<3.0	<10.0	<0.025	<1.26	<1.7
	73°	38%	705	0	.074	--	LOQ	--	--

3.2 Outside Measurements

Sample Location #: Outside 22 Cortlandt Street

Parameter	TEMP. (°F)	RH (%)	CO_2 (ppm)	CO (ppm)	RD (mg/m³)	TD (mg/m³)	Hg (mg/m³)	PCBs	VOCs (mg/m³)
	66	47	390	0	.038	--	--	--	--

LOD (Limit of Detection) - The observed concentration of the contaminant was lower than the limit of detection of the analytical method.

-- Parameter not Tested

3.3 Metal Fumes

Sample Location: Lobby

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 5th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 9th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 11th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 15th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 17th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	0.0036
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 19th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 21st Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 24th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	0.0075
Lead	<50	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 28th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 31st Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	0.014
Lead	<50	LOQ
Manganese	<1	LOQ

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

Sample Location: 34th Floor

Parameter Tested	Recommended Limit mg/m³	Result mg/m³
Aluminum	<5	LOQ
Antimony	<0.5	LOQ
Beryllium	<2	LOQ
Cadmium	<5	LOQ
Chromium	<0.5	LOQ
Cobalt	<0.05	LOQ
Copper	<0.1	LOQ
Iron	<10	LOQ
Lead	<50	LOQ
Manganese	<1	LOQ
Molybdenum	<5	LOQ
Nickel	<1	LOQ
Titanium	<10	LOQ
Vanadium	<0.05	LOQ
Zinc	<5	LOQ

3.4. Dioxin Compounds

LOCATION	DIOXIN (ng)
REFERENCE CRITERIA	25
31st floor, west window sill	0.009
Center of 19th floor, work station	0.012
Center of 5th floor, office desk	0.008
Lobby security desk	0.015

3.5 Fungal Spore Samples

Sample Location	Counts of Fungal Structures	Fungal Structures/m^3	Presumptive Fungal Identification
Lobby	3	20	Alternaria
	9	60	Ascospores
	220	1467	Basidiospores
	34	227	Cladosporium
	1	7	Ganoderma
	7	47	Hyphal Fragments
	6	40	Myxomycete/Periconia/Smuts
	16	107	Penicillium/Aspergillus
	1	7	Pestalotia
	Total: 297	Total: 1,980	
5th Floor	5	33	Ascospores
	30	200	Basidiospores
	4	27	Cladosporium
	1	7	Myxomycete/Periconia/Smuts
	7	47	Penicillium/Aspergillus
	1	7	Helicomyces
	1	7	Pestalotia
	Total: 49	Total: 330	
9th Floor	34	227	Basidiospores
	7	47	Cladosporium
	4	27	Hyaline Conidia
	2	13	Hyphal
	1	7	FragmentsMyxomycete/Periconia/
	Total: 48	Total: 320	Smuts
11th Floor	29	193	Basidiospores
	1	7	Cladosporium
	2	13	Hyphal Fragments
	2	13	Myxomycete/Periconia/Smuts
	32	213	Penicillum/Aspergillus
	Total: 66	Total: 440	
15th Floor	1	7	Alternaira
	4	27	Basidiospores
	2	13	Penicillum/Aspergillus
	Total: 7	Total: 50	
17th Floor	48	320	Basidiospores
	3	20	Cladosporium
	1	7	Hyphal Fragments
	11	73	Penicillum/Aspergillus
	Total: 63	Total: 420	

Sample Location	Counts of Fungal Structures	Fungal Structures/m³	Presumptive Fungal Identification
19th Floor	23	153	Basidiospores
	1	7	Hyphal Fragments
	2	13	Penicillum/Aspergillus
	Total: 26	Total: 170	
21st Floor	14	93	Basidiospores
	3	20	Cladosporium
	2	13	Hyaline conidia
	6	40	Penicillum/Aspergillus
	Total: 25	Total: 170	
24th Floor	7	47	Basidiospores
	1	7	Cladosporium
	2	13	Penicillum/Aspergillus
	Total: 10	Total: 70	
28th Floor	1	7	Ascospores
	33	220	Basidiospores
	11	73	Cladosporium
	3	20	Hyaline conidia
	6	40	Hyphal Fragments
	2	13	Myxomycete/Periconia/Smuts
	3	20	Penicillum/Aspergillus
	Total: 59	Total: 390	
31st Floor	2	13	Ascospores
	15	100	Basidiospores
	1	7	Ganoderma
	2	13	Hyaline conidia
	2	13	Penicillum/Aspergillus
	Total: 22	Total: 150	
34th Floor	1	7	Ascospores
	115	767	Basidiospores
	16	107	Cladosporium
	1	7	Epicoccum
	6	40	Hyaline conidia
	2	13	Hyphal fragments
	4	27	Myxomycete/Periconia/Smuts
	10	67	Penicillum/Aspergillus
	Total: 155	Total: 1,030	

Sample Location	Counts of Fungal Structures	Fungal Structures/m³	Presumptive Fungal Identification
Outside	4	27	Alternaria
	26	173	Ascospores
	3015	20,100	Basidiospores
	1	7	Cercospora
	69	460	Cladosporium
	4	27	Epicoccum
	3	20	Ganoderma
	14	93	Hyaline conidia
	29	193	Hyphal fragments
	28	187	Myxomycete/Periconia/Smuts
	46	307	Penicillum/Aspergillu..
	1	7	Pithomyces
	5	33	Torula
	1	7	Helicomyces
	5	33	Pestalotia
	Total: 3,251	Total: 21,670	

3.6 Airborne Asbestos (TEM)

Sample Location	Result (Struct/cm²)	Acceptable Criteria (f/cc)
Lobby	<0.0042	0.01
4th Floor	<0.0041	0.01
5th Floor	<0.0041	0.01
6th Floor	0.0043	0.01
7th Floor	<0.0043	0.01
9th Floor	<0.0043	0.01
10th Floor	<0.0042	0.01
11th Floor	<0.0049	0.01
12th Floor	<0.0049	0.01
14th Floor	<0.0048	0.01
15th Floor	<0.0048	0.01
16th Floor	<0.0048	0.01
17th Floor	<0.0048	0.01
18th Floor	<0.0048	0.01
19th Floor	<0.0048	0.01
20th Floor	<0.0048	0.01
21st Floor	<0.0048	0.01
22nd Floor	<0.0048	0.01
23rd Floor	<0.0047	0.01

24th Floor	<0.0040	0.01
25th Floor	<0.0042	0.01
26th Floor	<0.0041	0.01
27th Floor	<0.0041	0.01
28th Floor	<0.0042	0.01
29th Floor	<0.0046	0.01
30th Floor	<0.0045	0.01
31st Floor	<0.0041	0.01
32nd Floor	<0.0041	0.01
33rd Floor	<0.0042	0.01
34th Floor	<0.0042	0.01
35th Floor	<0.0042	0.01

SECTION 4 – DISCUSSION

While on site, Hillmann performed various types of air sampling and observed work conditions.

4.1 Temperature

The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) recommends temperatures be kept between 66°F and 76°F. In the occupied space, temperatures ranged from 67°F to 74°F and were within the recommended range.

4.2 Relative Humidity

ASHRAE recommends relative humidity range between 30% and 60%. Relative humidity levels in the subject space ranged from 36% to 50% and were within the recommended range in all areas.

4.3 Carbon Dioxide

ASHRAE recommends carbon dioxide levels remain below an outdoor reading plus 700 ppm. Since the outdoor reading was 390 ppm, the recommended limit is 1090 ppm. Carbon dioxide levels in the subject space ranged from 748 ppm to 506 ppm. Carbon dioxide levels were below the recommended limit.

4.4 Carbon Monoxide

Carbon monoxide, a colorless, odorless gas, is a by-product of incomplete combustion. Carbon monoxide combines with hemoglobin in the blood to cause carboxyhemoglobin poisoning. Carbon monoxide can be released by many different sources such as: motor vehicle exhaust (intakes for the ventilation system located near a loading dock), tobacco smoke, and cracked exchangers on gas-fired heating appliances. The standards for Carbon Monoxide are the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 35 ppm, the Occupational Safety and Health Administration (OSHA) Permissible Exposure Level (PEL) of 35 ppm, and the Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) of 9 ppm. Carbon monoxide levels measured in the occupied areas ranged from 0 ppm to 1 ppm and were below the recommended range.

4.5 Respirable Dust

The American Conference of Governmental Industrial Hygienists (ACGIH) recommends a Threshold Limit Value (TLV) of 3.0 mg/m^3 and the Occupational Safety and Health Administration (OSHA) has a Permissible Exposure Limit (PEL) of 5.0 mg/m^3. Respirable dust levels ranged from 0.017 mg/m^3 to 0.66 mg/m^3. Observed respirable dust levels were below the recommended limits in the building.

4.6 Total Dust

Dust and silica levels were measured in response to concerns of possible elevated levels due to the destruction of the World Trade Center and subsequent construction activities. Elevated levels of dust can lead to such irritations a scratchy eyes and throat, and dry cough. Samples were collected on both days of the investigation and analyzed for total dust present. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends that dust levels remain below 10 mg/m^3, and silica levels remain below 0.05 mg/m^3. The total dust amounts ranged from below the limit of detection to 0.083 mg/m^3. Since levels of dust were in such low levels, silica could not be detected in any of the samples.

4.7 Mercury

Mercury is used in florescent light bulbs, electrical switches, thermostats, manometers, barometers, gauges, valves, and some doze alarm type alarm clocks. Mercury is also used in a number of industrial applications, such as fluid bearing and fluid clutches that require a heavy liquid. Mercury is a fairly unreactive metal and is highly resistant to corrosion. The health effects of mercury vapor can cause effects in the central and peripheral nervous systems, lungs, kidneys, skin and eyes in humans. It is also mutagenic and affects the immune system. The ACGIH TLV for mercury vapor is 0.025 mg/m^3 as a TWA for a normal 10-hour workday and a 40-hour workweek and considers mercury vapor an A4 substance (not classifiable as a human carcinogen). NIOSH has established a recommended exposure limit (REL) for mercury vapor of 0.05 mg/m^3 as a TWA for up to a 10-hour workday and a 40-hour workweek. In the subject space, mercury levels remained below the limit of detection of 0.001 mg/m^3, and therefore below the recommended limit.

4.8 Polychlorinated Biphenyls

PCBs are a class of industrial chemical that contains 209 individual compounds. PCBs are generally clear, colorless to light yellow, viscous liquids or solids with a mild hydrocarbon odor. They have a low vapor pressure and thus have a low volatility. The lowest recommended limit set by the National Institute of Occupational Safety and Health (NIOSH) for PCBs in air is 1.0 ug/m^3. The USEPA screening level is 0.73 mg/m^3 Samples collected at selected locations throughout the building were below the limit of detection and below the level of concern for PCBs in air.

4.9 Volatile Organic Compounds

Volatile organic compounds are frequently used as cleaners and solvents. They produce vapors detectable at normal room temperature and pressure. Levels of volatile organic compounds measured by sample analysis ranged from 0.056 mg/m to 0.67 mg/m^3 in the subject space. Hillmann recommends a limit of 1.7 mg/m^3 for these compounds. Levels of volatile organic compounds were below our recommended limit.

4.10 Dioxins

Dioxin refers to a group of chemicals created when many types of materials burn; it is also created during some types of manufacturing and incineration. Dioxin does not break down easily, remains in the environment and can be distributed by wind and water. It is found in a wide variety of places. People are exposed to dioxin primarily by eating meat, dairy and fish. The EPA has set a screening level based on an assumption of continuous exposure for a year to an average concentration of 0.16 nanograms (ng). This measurement is also known as a total Toxic Equivalency Factor (TEF). The TEF for the samples collected at selected locations throughout the building were below the EPA total TEF standard.

4.11 Fungal Spore Samples

Fungal spores are always present. They can be found in elevated numbers in residual dust that accumulates on the interior of ventilation ducts if exposed to elevated moisture. If found in excess amounts, these spores can produce allergy-like symptoms as well as asthmatic reactions in those who are sensitive to them. Hillmann recommends that the indoor levels do not significantly exceed the outdoor levels in either quantity or diversity. Based on the results, fungal concentrations were below comparable outdoor levels.

4.12 Airborne Asbestos (TEM)

Asbestos is a naturally occurring mineral. It differs from other minerals in its crystal development. The crystal formation of asbestos is in the form of long thin fibers. Over the years, asbestos has had many uses. Its primary use is as an insulator or fire retardant, but can also be used as a binder. Due to this versatility, asbestos can be found in many types of building materials. Even though the federal government placed a moratorium on the application of some asbestos products in the early 1970's, installation of these products continued through the late 1970's and even into the early 1980's. EPA is using a protective standard under AHERA, the Asbestos Hazard Emergency Response Act, to evaluate the risk from asbestos in the outdoor and indoor air. This is a very stringent standard that is used to determine whether children may re-enter a school building after asbestos has been removed or abated. It is based on assumptions of long-term exposure. One quality control samples was taken and analyzed using transmission electron microscopy (TEM) for airborne asbestos on each floor. Results of these samples were lower than the New York City standard for occupancy of abated areas (less than 70 asbestos structures per square millimeter). Levels of airborne asbestos fibers ranged from 0.0041 fibers/cc to 0.0049 fibers/cc. The EPA "Clean Air" guideline, and the New York City criteria for reoccupancy following an abatement project is 0.01 fibers/cc. Observed levels were well below this limit.

SECTION 5 – CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the above information, corresponding laboratory data, and the professional judgment of Hillmann Environmental Group, LLC the sampling scheme is consistent with proper industrial hygiene practices and addresses the specific parameters identified by local authorities and GAB Robins. Hillmann found no characteristics of the Indoor Air Quality that are anticipated to cause occupant illness or require immediate remediation.

5.2 Recommendations

Based on these results, Hillmann has not identified any characteristics of the Indoor Air Quality that would require immediate remediation.

SECTION 6 – APPENDICES

6.1 List of Abbreviations

AIHA	American Industrial Hygiene Association
ACGIH	American Conference of Governmental Industrial Hygienists
ASHRAE	American Society of Heating, Refrigeration and Air-conditioning Engineers
CDC	Centers for Disease Control
EPA	Environmental Protection Agency
NAAQS	National Ambient Air Quality Standard
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
CFU/m^3	Colony forming units per cubic meter of air
F/cc	Fibrous dust per cubic centimeter of air
HVAC	Heating, ventilation & air-conditioning
mg/m^3	Milligrams per cubic meter of air
PEL	Permissible exposure level. This is the enforceable standard.
pCi/L	Picocuries per liter of air
ppm	Parts per million
TLV	Threshold limit value
TWA	Time weighted average

6.2 References

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