February 28, 2002

Mr. Bernard P. Orlan
Director, Environmental Health & Safety
New York City Board of Education
28-11 Queens Plaza North
Long Island City, NY 11101-4008

Re: Summary of Wipe and Air Sampling @
Stuyvesant High School
345 Chambers Street
New York, New York 10007
ATC Project No. 15-19125-0246

Dear Mr. Orlan:

At your request, ATC Associates Inc. (ATC) is pleased to provide you with the general summary of results for the wipe and air sampling performed at Stuyvesant High School. All the results were tabulated in the attached tables.

It is our pleasure to provide these wipe/air sampling services to the New York City Board of Education. If you have any questions about this report, please call (212) 353-8280, extension 261 or 298.

Sincerely,
ATC ASSOCIATES INC.

Reviewed by:

Arnel Javal
Project Manager

Andreas C. Andreou
Senior Project Manager

STUYVESANT HIGH SCHOOL
Respirable Particulates Concentrations and Ambient area air sample TEM results for asbestos

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Date	Total Number of readings collected	Outdoor Readings (µg/m³)	Range of indoor readings (µg/m³)	Number of readings >40 µg/m³ to ≤ 65 µg/m³ (24 hrs average)	Number of readings > 65 µg/m³ (24 hrs average)	Number of air samples collected for asbestos TEM analysis	Results of TEM asbestos analysis (structures/mm2) (Area clearance criteria <70 structures/mm2)
9/21/01	Indoor Air Quality Assessment (IAQ) did not start at this point					15	No structures Detected
10/4/01						5	No structures Detected
10/5/01						60	22.2 structures/mm^2 were detected in one sample
10/6/01						7	No structures Detected
10/7/01						7	No structures Detected
10/8/01						7	No structures Detected
10/9/01	104	20 and 30	10 – 39	0	0	12	No structures Detected
10/10/01	102	16 and 18	12 - 55	1	0	12	No structures Detected
10/11/01	96	33 and 42	18 - 43	1	0	12	No structures Detected
10/12/01	99	58	18 - 50	30	0	12	No structures Detected
10/13/01	Indoor air quality assessment was not performed - Weekend					12	22.2 structures/mm^2 were detected in one sample
10/14/01	Indoor air quality assessment was not performed - Weekend					12	No structures Detected
10/15/01	102	12 and 14	9 - 33	0	0	12	No structures Detected
10/16/01	114	25 and 35	12 - 37	0	0	13	No structures Detected
10/17/01	121	5 and 8	4 - 27	0	0	12	No structures Detected
10/18/01	105	9 and 14	4 - 26	0	0	20	22.2 structures/mm^2 were detected in one sample
10/19/01	101	21 and 75	13 - 47	17	0	21	No structures Detected
10/20/01	No respirable particulate readings were collected - Weekend					20	No structures Detected
10/21/01	No respirable particulate readings were collected - Weekend					20	22.2 structures/mm^2 were detected in one sample
10/22/01	101	74 and 145	27 - 104	46	35	21	No structures Detected
10/23/01	128	108 and 136	52 - 132	19	107	21	No structures Detected
10/24/01	101	76 and 81	27 - 86	62	26	21	No structures Detected
10/25/01	101	17 and 54	11 - 52	16	0	21	No structures Detected
10/26/01	99	21 and 33	9 - 28	0	0	21	22.2 structures/mm^2 were detected in one sample
10/27/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
10/28/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
10/29/01	101	23 and 48	12 - 41	1	0	21	No structures Detected
10/30/01	124	34 and 53	12 - 131	0	1	21	No structures Detected
10/31/01	116	24 and 46	12 - 38	0	0	21	No structures Detected
11/1/01	115	83 and 107	37 - 88	85	18	21	No structures Detected
11/02/01	117	54 and 78	38 - 81	87	20	21	No structures Detected
11/3/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
11/4/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
11/5/01	118	27 and 36	5 - 21	0	0	21	No structures Detected
11/6/01	119	14 and 16	5 - 15	0	0	21	No structures Detected
11/7/01	118	30, 31 and 31	17 - 41	1	0	21	No structures Detected
11/8/01	120	54 and 58	18 - 61	7	0	21	22.24 structures/mm^2 were detected in one sample
11/9/01	116	26 and 30	9 - 28	0	0	21	22.24 structures/mm^2 were detected in two samples
11/10/01	No respirable particulate readings were collected - Weekend					21	22.24 structures/mm^2 were detected in three samples
11/11/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
11/12/01	No respirable particulate readings were collected – Veterans Day Holiday					21	22.24 structures/mm^2 were detected in one sample
11/13/01	117	42 and 52	21 - 52	19	0	21	No structures Detected

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11/14/01	117	44 and 50	19 - 46	4	0	21	No structures Detected
11/15/01	116	140 and 140	58 - 116	3	111	21	No structures Detected
11/16/01	121	80 and 151	47 - 97	43	76	21	No structures Detected
11/17/01	186	16 and 24	6 - 12	0	0	21	No structures Detected
11/18/01	192	27 and 32	9 - 40	0	0	21	No structures Detected
11/19/01	120	50 and 94	20 - 57	26	0	21	No structures Detected
11/20/01	120	12 and 18	4 - 36	0	0	21	No structures Detected
11/21/01	123	26 and 27	11 - 47	1	0	21	No structures Detected
No sampling was performed – Thanksgiving Holiday							
11/23/01	No respirable particulate readings were collected - Thanksgiving Holiday					21	No structures Detected
11/24/01	No respirable particulate readings were collected – Weekend					21	No structures Detected
11/25/01	No respirable particulate readings were collected – Weekend					21	No structures Detected
11/26/01	120	29 and 73	15 - 63	47	0	21	No structures Detected
11/27/01	120	36 and 43	15 - 52	5	0	21	No structures Detected
11/28/01	123	50 and 87	22 - 63	39	0	21	No structures Detected
11/29/01	124	37 and 43	9 - 49	6	0	21	No structures Detected
11/30/01	124	84 and 89	27 - 66	90	1	21	No structures Detected
12/1/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
12/2/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
12/3/01	124	70 and 120	20 - 90	80	19	21	No structures Detected
12/4/01	124	110 and 113	30 - 94	77	30	21	No structures Detected
12/5/01	124	53 and 85	27 - 80	84	1	21	No structures Detected
12/6/01	123	47 and 58	27 - 70	66	2	21	No structures Detected
12/7/01	123	4 and 63	15 - 52	13	0	21	22.24 structures/mm^2 were detected in one sample
12/8/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
12/9/01	No respirable particulate readings were collected - Weekend					21	No structures Detected
12/10/01	123	76 and 85	22 - 66	56	1	21	No structures Detected
12/11/01	123	35 and 49	13 - 50	1	0	21	No structures Detected
12/12/01	127	58 and 60	26 - 63	14	0	21	No structures Detected
12/13/01	127	100 and 105	41 - 110	28	97	21	No structures Detected
12/14/01	126	85 and 89	31 - 107	84	33	21	No structures Detected
12/15/01	No respirable particulate readings were collected – Weekend					21	No structures Detected
12/16/01	No respirable particulate readings were collected – Weekend					21	No structures Detected
12/17/01	127	38 and 54	14 - 34	0	0	21	No structures Detected
12/18/01	127	3 and 4	2 - 10	0	0	21	No structures Detected
12/19/01	126	22 and 31	11 - 28	0	0	21	No structures Detected
12/20/01	127	7 and 53	6 - 32	0	0	21	No structures Detected
12/21/01	118	12 and 26	3 - 14	0	0	21	No structures Detected
12/22/01	No respirable particulate readings were collected – School was closed for holidays					21	No structures Detected
12/23/01	No respirable particulate readings were collected – School was closed for holidays					21	No structures Detected
12/24/01	No respirable particulate readings were collected – School was closed for holidays					21	No structures Detected
12/25/01	No sampling was performed – Christmas day						
12/26/01	No respirable particulate readings were collected – School was closed for holidays					21	No structures Detected
12/27/01	No respirable particulate readings were collected – School was closed for holidays					21	One sample was not analyzed. No asbestos was detected by qualitative scan
12/28/01	85	32	10 - 31	0	0	21	No structures Detected
12/29/01	52	35	18 - 30	0	0	21	No structures Detected
12/30/01	94	30	9 - 29	0	0	21	No structures Detected
12/31/01	94	30	7 - 26	0	0	21	No structures Detected
1/1/02	No sampling was performed – New Year day						
1/2/02	127	15 and 30	5 - 19	0	0	21	No structures Detected
1/3/02	127	18 and 20	8 - 27	0	0	21	No structures Detected
1/4/02	127	20 and 25	5 - 20	0	0	21	No structures Detected
1/5/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/6/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/7/02	127	15 and 32	8 - 30	0	0	21	No structures Detected

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1/8/02	127	12 and 15	5 - 17	0	0	21	No structures Detected
1/9/02	127	34 and 40	12 - 37	0	0	21	No structures Detected
1/10/02	122	38 and 49	15 - 38	0	0	21	No structures Detected
1/11/02	127	26 and 57	15 - 34	0	0	21	No structures Detected
1/12/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/13/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/14/02	127	29 and 35	4 - 27	0	0	21	No structures Detected
1/15/02	127	79 and 83	16 - 71	60	3	21	No structures Detected
1/16/02	127	12 and 13	4 - 23	0	0	21	No structures Detected
1/17/02	127	45 and 53	10 - 40	0	0	21	No structures Detected
1/18/02	127	27 and 34	7 - 34	0	0	21	No structures Detected
1/19/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/20/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/21/02	No respirable particulate readings were collected – Martin Luther King Day					21	No structures Detected
1/22/02	100	21 and 21	10 - 26	0	0	21	No structures Detected
1/23/02	98	29 and 30	10 - 22	0	0	21	No structures Detected
1/24/02	126	62	7 - 25	0	0	21	No structures Detected
1/25/02	115	62 and 64	7 - 18	0	0	21	No structures Detected
1/26/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/27/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
1/28/02	107	69 and 72	8 - 43	2	0	21	No structures Detected
1/29/02	106	71 and 77	10 - 39	0	0	21	No structures Detected
1/30/02	105	54 and 62	17 - 32	0	0	21	No structures Detected
1/31/02	104	21 and 31	12 - 35	0	0	21	No structures Detected
2/1/02	93	31 and 36	15 - 32	0	0	21	No structures Detected
2/2/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
2/3/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
2/4/02	121	33 and 36	14 – 25 / 19	0	0	21	No structures Detected
2/5/02 to 02/06/05	2 (24-hour reading)		17 – 22 (Dust Trak) 3.47 – 9.03 (MEM)				
2/5/02	124	42 and 48	11 – 23 / 17	0	0	21	No structures Detected
2/6/02	123	32 and 36	14 – 22 / 18	0	0	21	No structures Detected
2/7/02	121	34 and 38	13 – 21 / 17	0	0	21	No structures Detected
2/8/02	121	41 and 56	13 – 21 / 17	0	0	21	No structures Detected
2/9/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
2/10/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
2/11/02	121	36 and 38	10 – 21 / 16	0	0	21	No structures Detected
02/12/02	121	28 and 35	10 – 19 / 15	0	0	21	No structures Detected
02/13/02	121	29 and 31	12 – 19 / 16	0	0	21	No structures Detected
						6 settled dust (bulk samples analyzed by PLM) were collected. No asbestos fibers were detected.	
02/14/02	121	31 and 35	8 – 19 / 14	0	0	21	No structures Detected
02/15/02	121	32 and 36	11 – 19 / 15			21	No structures Detected
02/16/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
02/17/02	No respirable particulate readings were collected – Weekend					21	No structures Detected
02/18/02	101	26 and 28	3 – 14 / 6	0	0	21	No structures Detected
02/19/02	101	27 and 31	4 – 10 /5	0	0	21	No structures Detected
02/20/02	101	25 and 31	4 – 17 / 7	0	0	21	No structures Detected
02/21/02	101	20 and 22	4 – 12 / 6	0	0	21	No structures Detected
02/22/02	101	39 and 43	10 – 21 / 14	0	0	21	No structures Detected
02/23/02						21	No structures Detected
02/24/02						21	No structures Detected
02/25/02	124	32 and 35	10 – 22 / 16	0	0	21	No structures Detected
02/26/02	120	26 and 29	10 – 21 / 16	0	0	21	No structures Detected

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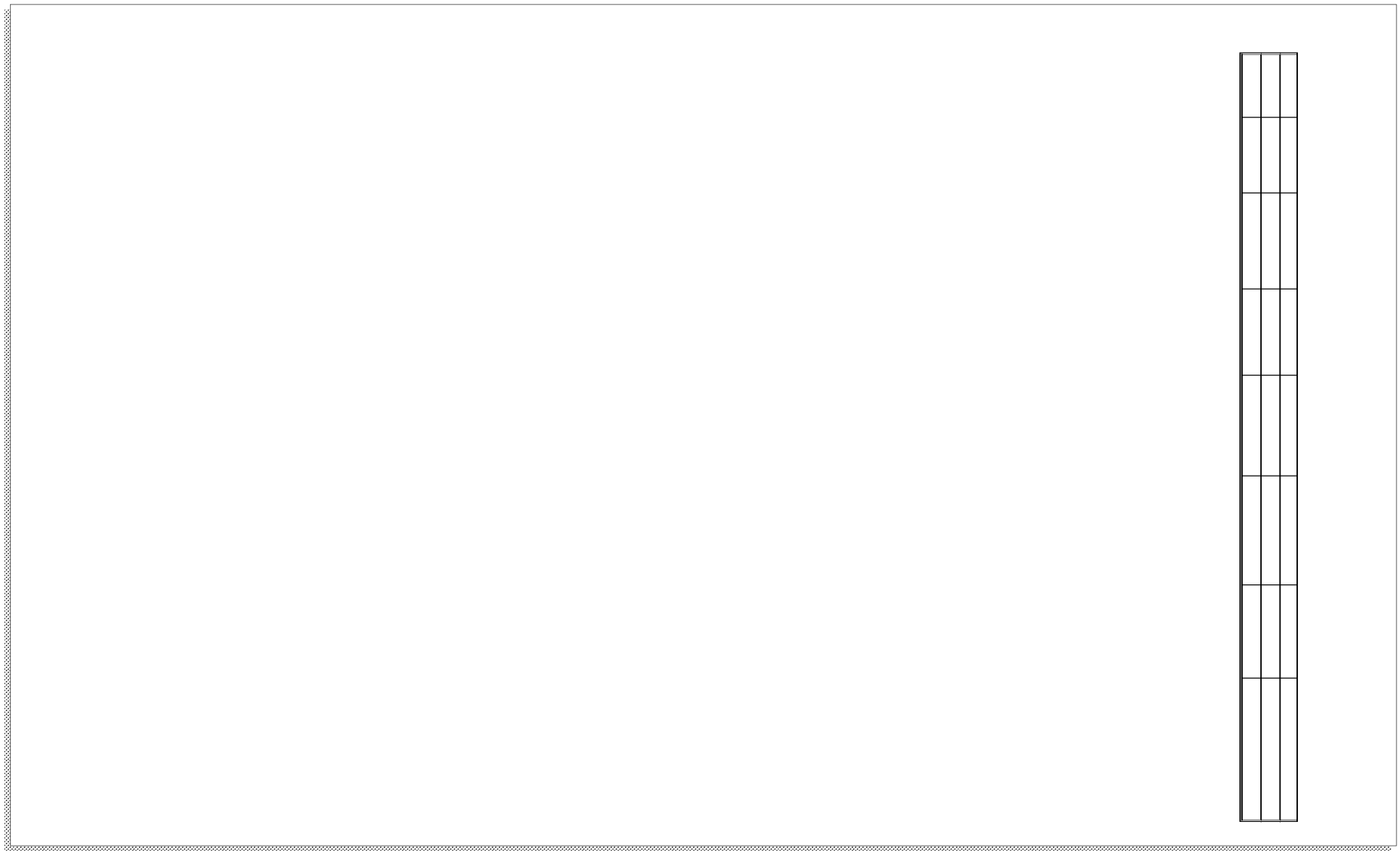

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stuyvesant high school														
	lead-in-wipe-dust sample			Mercury	pcb's	Silica (respirable Dust)		fiberglass	hydrocarbons		dioxins wipe sample		metals	
Date	# of Sample	Lead Conc. On Floor (µg/ft²)	Lead Conc. On Window Sill (µg/ft²)	Mercury Conc. (mg/m³)	Concentration (3 samples per day) (µg/cm2)	Range of Indoor Conc. (11 samples per day)	Range of Outdoor Conc. (1 sample day)	Results (10 samples per day)	Indoor Readings (2 samples per day)	Outdoor Reading (1 sample per day)	Indoor Surfaces Range of Conc. (2 samples per day) (ng/m²)	Air Plenum Conc. (1 sample per day) (ng/m²)	Indoor Readings (2 samples per day) (mg/m³)	Outdoor Reading (1 sample per day) (mg/m³)
10/18/01	18	Swimming Pool = 46.1 Cafet. = 45.8	Below Guidance Level			No silica found above detection limit on 6 samples	No silica found above detection limit	Fiberglass was detected on 14 samples						
10/19/01						No silica found above detection limit on 10 samples	No silica found above detection limit							
10/20/01	5	All five area samples and field blanks results are below the OSHA Action Level of 30 ug/m³.												
10/24/01	21	Below Guidance Level	Below Guidance Level			9th Floor Hallway = 0.017 mg/m³	No silica found above detection limit	No fiberglass was detected on 15 samples						
10/25/01						No silica found above detection limit	No silica found above detection limit							
10/31/01	17	Below Guidance Level	Below Guidance Level			No silica found above detection limit	No silica found above detection limit	Non detected						
11/07/01	17	Below Guidance Level	Below Guidance Level					Non Detected						
11/8/01									Hexane = 0.125 ppm (above detection limit)	None detected above limits of detection	0.00049 to 0.00019	0.0014	Aluminum = 0.001-0.002 Chromium = 0.0002	Below limit of detection
11/14/01	17	Below Guidance Level	Below Guidance Level		Below reporting limit of 2 ug/sample			Non Detected	Hexane = 0.184 ppm (above detection limit)	None detected above limits of detection	0.0014 to 0.0014	0.081	Below limit of detection	Chromium = 0.0005 Iron = 0.004
11/15/01						Room 635 = 0.023 mg/m³ (Above Detection Limit)	No silica found above detection limit							

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11/16/01				0.000191 to 0.000222		No silica found above detection limit	No silica found above detection limit							
11/20/01				0.000179 to 0.000323	Below reporting limit of 2 ug/sample	No silica found above detection limit	No silica found above detection limit		None detected above limits of detection	None detected above limits of detection	0.0013 to 0.00044	0.020	Chromium = 0.0002 to 0.0003	Iron = 0.0036
11/21/01	17	Below Guidance Level	Below Guidance Level					Non Detected						
11/27/01						No silica found above detection limit	No silica found above detection limit		None detected above limits of detection	None detected above limits of detection			Chromium = 0.00021 to 0.00031	Below limit of detection
11/28/01	17	Below Guidance Level	Below Guidance Level		Below reporting limit of 2 µg / sample			Non Detected			0.00015 to 0.00056	0.0015		
12/3/01					Below reporting limit of 2 µg / sample						0.000065 to 0.00016	0.0016	Levels of airborne metals did not exceed the Limit of Detection except for the blank sample with trace amount of chromium.	
12/5/01	17	Below Guidance Level						Non Detected						
12/7/01						No silica found above detection limit	No silica found above detection limit		None detected above limits of detection	None detected above limits of detection				
12/12/01	17	Below Guidance Level						Non Detected						
12/13/01				Mercury was not detected in any of the samples at a level greater than in a blank	Below reporting limit of 2 µg / sample	No silica found above detection limit	No silica found above detection limit		None detected above limits of detection	None detected above limits of detection	0.000065 to 0.00016	0.0016	Chromium = 0.000306 mg/m^3 found in 1st floor main lobby. Blank = 0.026 micrograms per filter.	
12/19/01	17	Below Guidance Level						Non Detected						
12/20/01				0.000333 to 0.000289	Below reporting limit of 2 µg / sample	No silica found above detection limit	No silica found above detection limit		Total Other B Hydrocarbons = 0.061 ppm	None detected above limits of detection	0.000065 to 0.00016	0.0016	None of the metals in the analytical panel were present at levels above the limits of detection.	
12/26/01	17	Below Guidance Level		0.000292 to 0.000302	Below reporting limit of 2µg / sample	No silica found above detection limit	No silica found above detection limit	Non Detected	None detected above limits of detection	Acetone = 0.114 ppm Hexane = 0.062 ppm	0.000065 to 0.00016	0.0016	None of the metals in the analytical panel were present at levels above the limits of detection.	
1/02/02	17	5th Floor Cafet = 95.3 1st Flr Lobby = 116.1	3rd Floor Aux. Gym = 599.94					Non Detected						
1/03/02	9 (Retest after cleanup)	Below Guidance Level		0.000271 to 0.000302	Below reporting limit of 2 µg / sample				None detected above limits of detection	None detected above limits of detection	0.00020 and 0.0049	0.83	None of the metals in the analytical panel were present at levels above the limits of detection.	

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1/4/02					No silica found above detection limit	No silica found above detection limit						
1/09/02	17	Below Guidance Level	0.000417 to 0.000375	Below reporting limit of 2 µg / sample	2rd floor lobby = 0.014 mg/m³ Room 260 = 0.0135 mg/m³.	No silica found above detection limit	Non Detected	None detected above limits of detection	None detected above limits of detection	0.000056 and 0.00017	0.0010	None of the metals in the analytical panel were present at levels above the limits of detection.
1/16/02	17	Below Guidance Level					Non Detected					
1/17/02			0.000292 to 0.000302		2rd floor lobby = 0.0123 mg/m³	No silica found above detection limit		None detected above limits of detection	None detected above limits of detection			The levels of airborne metals did not exceed the limits of detection in any of the samples except for chromium in the following locations: 1rt floor main lobby (0.00543 mg/m³), 2nd floor lobby near bridge entrance (0.00473 mg/m³), roof air intake (0.00638 mg/m³), and blank sample (0.296 micrograms per filter.
1/18/02				Below reporting limit of 2 µg/ sample						3 samples were collected for dioxin. The levels found in these samples were below the NYSDOH guidelines of 25 ng/m².		
01/23/02	17	Below Guidance Level	Mercury was not detected in any of the samples at a level greater than in the blank	Below reporting limit of 2 µg / sample	No silica was found above detection limit.		Non Detected	None detected above limits of detection	None detected above limits of detection	3 wipe samples (+1 blank) were collected for dioxin. The levels found in these samples are below the NYSDOH guideline of 25 ng/m².		The levels of airborne metals did not exceed the limits of detection in any of the samples except for chromium which was also found in the blank.
01/29/02							Non Detected					
01/30/02	17	Below Guidance Level	3 air samples were collected for mercury. Mercury was found in all three samples at a very low levels.	3 wipe samples for PCBs were collected. The PCB results of all samples were below the reporting limits of 2.0 ug/sample.	12 air samples for silica were collected. Silica was not detected on any of the samples collected.			Chloroform was detected in both indoor samples (Main lobby = 0.049 ppm and 2nd floor bridge entrance = 0.14 ppm).	Non Detected	3 wipe samples (+1 blank) were collected for dioxin. The levels found in these samples are below the NYSDOH guidelines of 25 ng/m².		3 air samples for metals were collected. The levels of airborne metals did not exceed the limits of detection in any of the samples except for chromium which was also found in the blank.
02/06/02	17	5th Floor Hallway and Room 635 floor surfaces are above the guidance limit of 40 ug.ft².	Below Guidance Level	3 air samples were collected for mercury vapor. After the samples are blank corrected, the max. concentrations in the indoor and outdoor samples fall below the limit of detection.	3 wipe samples for PCBs were collected. The PCB results of all samples were below the reporting limits of 2.0 ug/sample.				3 air sample were collected for HC. NO hydrocarbons were detected in the analytical panel were present above the limits of detection in any of the samples.			3 air samples for metals were collected. The levels of airborne metals did not exceed the limits of detection in any of the samples except for chromium and aluminum which was also found in the blank.

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02/07/02	6	Below Guidance Level (follow up samples)									
02/13/02	17 (+2 blks) 9 (+1 blank) 3 (+2 blanks)	Lead concentration in all dust wipe samples collected was less than all applicable standards for lead in dust on floor and windowsills. Lead concentration in the blanks was below the detection limit. Additional sample collected inside the distribution air ducts and mixing boxes in air handling units. Results of all samples including blanks are below floor surface guidance level. 3 air samples (+2 blanks) were collected for lead. The levels of airborne lead did not exceed the limit of detection in any of the samples.	3 air samples (+1 blank) were collected for mercury vapor. The Hg concentrations are essentially indistinguishable from the blank.	3 wipe samples (+1 blank) for PCBs were collected. The PCBs results of all samples were below the reporting limit of 2 ug.sample.			10 bulk samples for fiberglass were collected. No fiberglass detected in all 10 samples.				
02/20/02	17 (+ 2 blks)	Lead concentration in all dust wipe samples collected was less than all applicable standards for lead in dust on floor and windowsills. Lead concentration in the blanks was below the detection limit.	3 air samples (+1 blank) were collected for mercury. Mercury was detected on the roof at a level greater than the blank.				10 settled dust bulk samples were collected. No fiberglass detected in all 10 samples.				3 air sample (+1 blank) for HCs **were collected. None of the HCs were present above the limit of detection in any of the samples.**
02/23/02	17 (+ 2 blks)	Lead concentration in all dust wipe samples collected was less than all applicable standards for lead in dust on floor and windowsills. Lead concentration in the blanks was below the detection limit.									

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