

Below are reports on site inspections of Stuyvesant High School by Howard Bader and/or Richard Massari of H.A. Bader Consultants, Inc. and Tom Fusillo of Environ. The first of the inspections was done on July 19, 2002.

July 19, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Monday, July 22, 2002 9:51 AM
To: Tom Fusillo; David Ross
Subject: July 21 Site inspection

As of 2 pm on 7/19: With the exception of 2 ceiling mounted unit ventilators on the 10th floor and 4 on the 9th floor, all unit ventilators on these floors have been environmentally cleaned. They are starting to re-insulate and encapsulate the units on the 10th floor. All unit ventilators on the 8th floor were environmentally cleaned and tested, lead test results were still due for several units. I inspected approximately 10 units of these post cleaning and tested (lab results still pending) units. The majority were cleaned OK, however 2 had unacceptable levels of dust in them. This was pointed out to the mechanical (VR), environmental (Kiss) and testing (Taylor) contractor and they agreed with my assessment and said they would do better in the future. The ducts and plenums are completed on floors 7-10. They are working on the 6th floor and just starting in the Penthouse mechanical room. My visual in the ducts on the 8th floor found unacceptable levels of dust in 2 of 4 inspected areas. The mechanical (VR) and duct cleaning (Guardian) sub contractor agreed that additional cleaning is required in these areas, however they said that the contractor visual inspections had not been done on these systems yet. The inspections they are referring to are those by the prime mechanical contractor (VR) and the duct cleaning subcontractor (Better-Aire (spelling ?), Guardian is a duct cleaning subcontractor to Better-Aire). Apparently they were planning on doing these inspections after the entire system is cleaned. I told them they should perform these inspections while the cleaning crew is still on the floor and the negative air systems are still in operation. There was no point in me doing any additional duct inspections at this time. In the future they will let me know where these inspections were completed prior to my checking them. An independent environmental consultant or the SCA should also be doing visual inspections in the ducts (I'm not sure if this is being done). The SCA was not present (they were there when I started but not when I left). I left a message on Alex's (SCA) voice mail regarding these issues.

Howard Bader

July 23, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Tuesday, July 23, 2002 5:15 PM
To: David Ross; Tom Fusillo
Subject: Stuyvesant update

As of 3 pm on 7/23: With the exception of ceiling mounted units, all unit ventilators have been cleaned on floors 7-10. I inspected approximately 8 units on the 6th floor and all were clean. The ducts are completed on floors 6-10 (except the Gym). The ceiling plenums are completed on floors 7-10. My visual in the ducts on the 6th floor found them clean. The main units and related ducts in the Penthouse mechanical room have been vacuumed. Power washing of the coils and fans has yet to be done. The SCA said they increased the frequency and depth of their visual

inspections and it appears to be improving the finished product. I was satisfied with what I saw today. I am still awaiting test results (I have not seen any to date).

Howard Bader

July 25, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Thursday, July 25, 2002 8:19 PM
To: David Ross; Tom Fusillo
Subject: Stuyvesant Visit 7/25

As of 5:30 PM on 7/25: The 2 ceiling mounted unit ventilators on 10 and 1 of 4 ceiling units on 9 are complete, however they did not remove the fiberglass insulation inside the outdoor air plenum. The reason given is that the duct cleaning protocol does not call for removal of intact interior insulation lining, only vacuuming and coating. I explained that this area is actually part of the unit ventilator intake and no different from the intake plenums behind the floor mounted units (where the insulation is being removed). I agreed that the interior lining in the ducts connected to and downstream of the ceiling unit ventilators could be vacuumed and coated (they are clean in appearance compared to the outdoor air plenum). The Senior Industrial Hygienist for the SCA (Hamid Savoj) said he would discuss this with Alex Lempert. They have only done 3 of the approximate 30 of these units, now is the time to catch this. I spoke to Tom Fusillo and he emailed this request to Bernie Orlan.

With the exception of ceiling mounted units, all unit ventilators have been cleaned on floors 5-10. The 4th floor should be complete by the end of tonight's shift. They are building tents on the 3rd floor. I inspected approximately 10 units on the 4th floor and all were clean.

No new ducts have been cleaned since Tuesdays report, except the 6th floor Gym has just started. Due to unacceptable lead concentrations in the ducts already cleaned, floors 9 & 10 are currently being re-cleaned. I understand the lead levels weren't too high (around 40), however I have yet to see any reports.

The Penthouse mechanical room is still being cleaned (including power washing of the coils and fans). The auditorium is being scaffolded for the duct and room cleaning.

Howard Bader

July 28, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Sunday, July 28, 2002 6:19 PM
To: David Ross; Tom Fusillo
Subject: Sunday 7/28 visit

I did an unannounced visit around 9:00 am Sunday morning (I told SCA on Friday I would probably show up sometime this weekend, but told them it would likely be on Saturday). I inspected a cleaned ceiling mounted unit ventilator on the 10th floor and it looked good. They are removing the fiberglass insulation inside the outdoor air plenums. With the exception of some ceiling mounted units scattered on various floors, all unit ventilators have been cleaned on floors 4-10. The 3rd floor is in progress and should be completed today or by Monday at the latest. I inspected several cleaned units on the 3rd floor and all were clean.

No new ducts have been cleaned since last week. They had some labor problems with the union and some of the workers were alarmed that the ducts had lead contamination (they thought it was a just a typical dust cleanup). These issues seem to be resolved at this time. Due to the unacceptable lead concentrations in the ducts already cleaned, floors 6-9 are currently being re-cleaned. I understand the 10th floor ducts have passed clearance testing.

The Penthouse mechanical room is still being cleaned. The auditorium is fully scaffolded but no cleanings have started yet. I removed 2 carpet samples today from the Auditorium and am storing them in separate zip-lok bags. Tom I did not get any Lab results.

Howard Bader

July 30, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Wednesday, July 31, 2002 6:50 AM
To: David Ross; Tom Fusillo
Subject: 7/30 Stuy Visit

As of 5:30 pm on Tuesday July 30:

With the exception of some ceiling mounted units scattered on various floors, all unit ventilators have been cleaned on floors 3-10. The 2nd floor is in progress. I inspected several cleaned units on the 2nd floor. The only units available had not been inspected yet by Taylor Environmental. With the exception of 2 units, they were all clean. I did the inspection with Taylor and they agreed with re-cleaning the 2 units (they said they would have required this re-cleaning without my input, based on what I have seen lately I have no reason to doubt this is true).

No new ducts have been cleaned. They are still re-cleaning ducts on the 6th floor. The 9th & 10 floor ducts passed wipe testing (using the 40 micrograms per square foot maximum parameter). Samples were collected at noon today for the 7th & 8th Floors, results were due by 6:00 pm.

The Penthouse mechanical room is still being cleaned. The auditorium is fully scaffolded but no cleanings have started yet. I will run ultrasonication testing with EMSL Analytical on the 2 carpet samples I took from the Auditorium (unless you do this in-house Tom).

Howard Bader

August 1, 2002 Site Inspection Report - Stuyvesant High School

From: Howard Bader
Sent: Friday, August 02, 2002 8:29 PM
To: Tom Fusillo; David Ross Home
Subject: 8/2 Stuyvesant Visit

As of 1:00 pm on Friday August 1:

I arrived 2 hours prior to my scheduled time and less than one after notifying the SCA of my visit. I was accompanied by Richard Massari (Environmental/HVAC Engineer) from my office.

With the exception of just a few ceiling mounted units scattered on various floors, all unit ventilators have been cleaned on floors 3-10. The 2nd floor unit vent cleaning is still in progress. Only one cleaned unit ventilator was available for inspection (ceiling unit 5th floor) . The

unit was cleaned to my satisfaction. I witnessed the testing of the unit by Taylor Environmental and I was satisfied with what I saw. I also witnessed Taylor doing wipe testing of floors and surfaces in various rooms on the 9th floor. These procedures were also acceptable to me.

The corridor ducts are being cleaned on the 4th and 5th Floors. The entire riser shafts for HVAC 1 (Penthouse thru 3rd floor) were being cleaned. Floors 7-10 have passed wipe testing.

The auditorium is fully scaffolded but no cleanings have started yet. The pool is also partially scaffolded.

I asked Taylor to show me the locations where duct wipes are taken on a typical floor. For the return ducts I find the locations acceptable, but not for the supply ducts.

The supply duct samples were taken from the vertical surface (wall) of the duct collar which attaches to the ceiling supply outlet. First, a vertical surface does not retain particulates, especially after a cleaning. This is also a part of the ducted system that is typically hand cleaned. It is not representative of the majority of supply ducts which are horizontal and cleaned with whips and/or vacuums. The SCA picked this location based on a previous meeting that I did not attend. The SCA said they originally were only going to test the air outlet grilles. This was unacceptable to the UFT and they requested the duct surface be tested, accessible thru the outlet opening (collar). Vertical or horizontal surfaces were never discussed. I spoke to the UFT consultant today (Ed Olmstead) and he agreed that a horizontal duct surface would be better than the location currently used. All future tests should be from horizontal surfaces within the ducts.

Since only 3 samples have been taken per floor (floors 7-10), testing could be repeated in the locations I am recommending in a few hours. I would like to have my engineer pick the locations and witness this testing. If the BOE/SCA refuses, the PA should do the testing. Without this testing I can not feel comfortable that the supply ducts are satisfactorily cleaned.

I received the ultrasonication test results for the Auditorium carpet from EMSL Analytical today. Both are extremely high (approximately 60,000 and 2.5 million asbestos structures per square centimeter). I will fax a copy of the results to each of you. Levels greater than 10,000 are currently triggering abatement for WTC related projects. Surprisingly the highest value was from under a seat in the rear of the Auditorium (below the Mezzanine). This certainly raises concern that the seats are contaminated. BOE should adequately sample (ASTM Microvac) the seats to determine if cleaning is feasible. If the seats are not replaced, extensive sampling should be performed after cleaning and prior to occupancy. Similar consideration should be given to replacing and/or testing the 6th floor Library carpeting.

The contaminated carpeting must be removed with great care. The entire Auditorium should be plasticized as required for asbestos abatement projects. Ideally the carpeting should be removed prior to any other cleaning in this area. Unfortunately, the scaffolding in place prevents the carpeting from being removed until the rest of the Auditorium (including the ventilation system) is cleaned.

My engineer, Richard Massari is planning 2 visits per week (Tom hopefully you can do at least 1 per week) while I am gone. Right now they are scheduled for Tuesday and Friday each week. I told him to call SCA each of these mornings and request times when sampling can be witnessed. I realize there is too much going on for me to completely disappear. Therefore, I will check my cell phone messages at least twice daily (approximately 1 pm and 3 am EST). (*Number deleted*). Leave specific times when you will be available. I will have email capability, but will not be tracking it. Call to let me know to check it.

Howard Bader

August 6, 2002 Site Inspection - Stuyvesant High School

From: Howard Bader
Sent: Tuesday, August 06, 2002 3:34 PM
To: David Ross Home; Tom Fusillo
Subject: 8/6 Stuvvesant Visit

As of 2:00 pm on Tuesday August 6:
The 8th floor general cleaning is done, and testing of the East side will either take place tonight or tomorrow. The west side has passed already.

The 3rd floor overhead unit ventillators are done being cleaned, and will be tested today. I inspected the wall unit in room 373, and it was cleaned to my satisfaction.

The 7th floor west side general cleaning was in progress.

The 2nd floor overhead unit ventillators are being prepped and cleaning will begin today.

The cleaning of the ductwork on the 4th floor was completed today, and testing should occur tonight. Testing has been done in the 5th floor and 11th floor MER ducts, both have passed. Testing has been done on the Auditorium ducts and we are waiting for results.

The cleaning of HVAC Units 7, 8, 9, 10, 11, 13, and Gym Area has been compled and testing should take place tonight.

Richard Massari

August 12, 2002 Site Inspection - Stuyvesant High School

From: Tom Fusillo
Sent: Tuesday, August 13, 2002 5:09 PM
To: Howard Bader; David Ross
Subject: Stuy Site Visit on Aug. 12

I conducted a visit to Stuyvesant on Monday, August 12, 2002. The 9th, 8th, and 7th floors were inspected after final general cleaning and testing had been completed on those floors. All hallway and classroom floors, desks, tables, etc. on those floors appeared clean with no discernable dust. Several unit ventilators were opened and inspected and observed to be clean with no discernable dust evident. For the ceiling unit ventilators, it was confirmed that wipe sampling from intake plenum has been performed, as requested. The two air handling units in the penthouse mechanical room were also inspected and observed to be clean with no discernable dust.