ENVIRONMENTAL ASSESSMENTS & SOLUTIONS, INC.

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Project #:	22/08IAQ
Site:	Hamilton Modular School at Western Middle School
Scope:	Mold Testing Summary Report
Period:	2/27 - 3/13/08
Status:	No Laboratory Results Pending. Initial Summary Report Issued 3/10/08. Update #I Issued 3/18. Update #II Issued 3/19/08. Final Update #III Issued 3/25/08

Enclosed is a chronological summary of test data from the Hamilton Modular School related to the mold condition we identified:

Date:	2/27 (Wednesday)
Test:	Pre-renovation building material testing for asbestos
Location:	Classroom 7
Method:	Polorizing Light Microscopy
# of Samples:	7 samples
Time Due:	12 hours after receipt by lab
Purpose:	To verify that regulated asbestos would not be disturbed during any invasive inspection work
Findings:	No regulated asbestos identified.
Conditions:	Testing conducted after hours
Pending:	No results pending

Date:	2/28 (Thursday)
Test:	Air testing for mold (round I)
Location:	Conducted in classroom 7 and 13, 7/13 hall, comparison CR, outdoors (1) with a quality control sample
Method:	Optical microscopy (spore trap - fungi)
# of Samples:	6 samples
Time Due:	3 hours after receipt by lab on weekend
Purpose:	To determine ambient air quality for bioaerosols in complaint locations compared to non-complaint and outdoors
Findings:	Air quality acceptable at time and location of tests (results received 3/01)
Conditions:	Conducted after school hours prior to building being vacated
Pending:	No results pending

Date:	3/01 (Saturday)
Test:	Air testing for mold (round II)
Location:	Conducted in 11 rooms, 2 halls, outdoors (3) with a quality control sample
Method:	Optical microscopy (spore trap - fungi) and culture (plates - bacteria and fungi)
# of Samples:	17 samples
Time Due:	3 hours after receipt by lab
Purpose:	To determine ambient air quality for bioaerosols after invasive inspection
Findings:	Air quality acceptable at time and location of culture bacteria (results received (3/05) and optical microscopy tests (results received 3/03). For culture fungi results, Basidiomycetes sp. (mushroom spores) was dominant in several indoor samples but not outdoors and was highest in classroom 21 and hall between classroom 7 / 13 (results received 3/11)
Conditions:	Conducted after invasive inspection of classrooms 7, 8 and 13
Pending:	No results pending

Date:	3/04 (Tuesday)
Test:	Surface mold testing of cleaned and disinfected furniture (round I)
Location:	Conducted in three (3) classrooms (4, 21 & 19) with three (3) pieces of furniture tested in each room
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	10 samples
Time Due:	Same day as receipt by lab (optical microscopy only)
Purpose:	To verify that furniture was adequately cleaned and disinfected
Findings:	No mold or normal background levels of mold identified by optical microscopy (results received 3/06). No bacteria or fungi identified on furniture by culture (results received 3/12).
Conditions:	Conducted after furniture was cleaned and disinfected with a biocide by Away Env.
Pending:	No results pending

Date:	3/04 (Tuesday)
Test:	Air testing for mold (round III)
Location:	Conducted in nearly all rooms with outdoors (3) and a quality control sample
Method:	Optical microscopy (spore trap - fungi)
# of Samples:	30 samples
Time Due:	3 hours after receipt by lab
Purpose:	To determine ambient air quality for bioaerosols after invasive inspection
Findings:	Elevated levels of Aspergillus / Penicillium like spores in 4 classrooms (9, 10, 15 and 16) and marginally elevated levels of Aspergillus / Penicillium in 2 classrooms (11 and 13)
Conditions:	Conducted after invasive inspection of soffit with school unoccupied, chairs and desks being cleaned and disinfected and with possessions protected.
Pending:	No results pending

Date:	3/05 (Wednesday)
Test:	Surface mold testing of cleaned and disinfected furniture (round II)
Location:	Conducted in two (2) classrooms (17 & 7) with three (3) pieces of furniture tested in each room with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	7 samples
Time Due:	3 hours after receipt by lab (microscopy only)
Purpose:	To verify that furniture was adequately cleaned and disinfected
Findings:	No mold or normal background levels of mold (Aspergillus / Penicillium like spores or Ascospores) identified in two (2) of the samples by optical microscopy (results received 3/06). No bacteria or fungi identified on furniture by culture (results received 3/12).
Conditions:	Conducted after furniture was cleaned and disinfected with a biocide by Away Env.
Pending:	No results pending

Date:	3/05 (Wednesday)
Test:	Surface mold testing within the earth crawlspace under school building
Location:	The ceiling fiberboard foil and wood ceiling above the fiberboard & fiberglass batt insulation as well as the interior skirt wood wall and skirt wood framing were tested with a quality control sample. Testing was conducted under classroom 6, under classroom 7 and under the main office
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	9 samples
Time Due:	1 day after receipt by lab (microscopy only)
Purpose:	To evaluate the extent of the moisture and mold problem identified in the crawlspace
Findings:	At each interior crawlspace location inspected the skirt wood was wet and visibly mold stained with condensation dripping off of the ceiling fiberboard. Skirt wood wall and framing within the crawlspace were heavily contaminated with Aspergillus / Penicillium like spores and Chaetomium by optical microscopy. The wood ceiling and fiberglass batt insulation above the fiberboard were visibly clean and dry and had normal background levels of mold by optical microscopy (results received 3/07). Skirt wood wall and framing within the crawlspace were very heavily contaminated with Bacteria: Bacillus sp., Pseudomonas sp. and Staphylococcus sp. and Fungi: Gliomastix sp., Monocillium sp., Acremonium sp., Penicillium sp. and Verticillium sp. The wood ceiling above the fiberboard and fiberglass batt insulation had no mold by culture analysis (results received 3/14).
Conditions:	Access into the crawlspace was provided by GSD who cut access ports through the exterior skirt
Pending:	No results pending

Date:	3/05 (Wednesday)
Test:	Surface mold testing within soffit and above classroom sheetrock ceiling outside of soffit
Location:	Classroom 8, 15, 21, multipurpose room, classroom 6 and 2. The interior soffit wall and framing were tested within the soffit and the wood underside of the roof deck and deck wood framing outside the soffit above the classroom sheetrock ceiling were tested with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	25 samples
Time Due:	Same day as receipt by lab (microscopy only)
Purpose:	To evaluate the extent of the moisture / mold problem identified in the soffit and to determine whether the condition is spreading to the classroom ceiling above the sheetrock
Findings:	In most soffits, the wood was wet and visibly mold stained with condensation dripping off of the soffit interior. In all rooms outside of the soffit, except classroom 7, the wood was dry. In all rooms outside of the soffit, the underside of the wood roof deck and framing did not have visible mold staining or moisture build-up. In classroom 7 the wet underside of the wood roof deck was in the area of the roof down-spout and likely due to this condition. In the soffit, high levels of Aspergillus / Penicillium like spores, Cladosporium sp., Acremonium sp. and Doratomyces was identified at specific sample locations. In the classrooms outside the soffits, no mold or normal background levels of mold were identified by optical microscopy (results received 3/07). The soffit is very heavily contaminated with Bacteria: Bacillus sp., Pseudomonas sp. and Staphylococcus sp., Klebsiella sp. and Acinetobacter sp. and Fungi: Trichoderma sp., Verticillium sp., Cladosporium sp., Penicillium sp., Yeast sp. and Acremonium sp. In the classrooms outside the soffits culture results of most samples showed no mold growth for most of the surface samples (results received 3/14/08).
Pending:	No results pending

Date:	3/06 (Thursday)
Test:	Air testing for Formaldehyde
Location	Eight (8) classrooms, hallway (1), outdoors (2) and a quality control sample
Method:	Absorption badge by Assay Technology with HPLC / UV analysis
# of Samples:	11 samples
Time Due	Three (3) days from receipt of samples by lab
Purpose:	To determine whether school construction materials are off-gassing HCHO.
Findings:	Formaldehyde was identified in all indoor air sample. The level of Formaldehyde ranged indoors from 0.0092 ppm to 0.012 ppm and outdoors from 0.000 ppm to 0.03 ppm (lab results available 3/13/08). These measurements are 1/10th the State of CT Guideline for Formaldehyde.
Pending:	No results pending

Date:	3/06 (Thursday)
Test:	Air testing for mold (round IV)
Location:	Conducted in each room with an elevated bioaerosol result in round III as well as adjoining classrooms, hallway (2) in this wing, outdoors (2) and a quality control sample
Method:	Optical microscopy (spore trap - fungi)
# of Samples:	16 samples
Time Due:	3 hours after receipt by lab on weekend
Purpose:	To verify the effectiveness of cleaning possessions in rooms which previously had elevated or marginally elevated levels of bioaerosols
Findings:	Marginally elevated levels of Aspergillus / Penicillium like spores in the hallway between classroom 12 / 18 and 7 / 13. Classrooms 9, 10, 15, 16, 11 and 13 which were previously elevated during phase III were no longer elevated after room possessions were cleaned and disinfected.
Conditions:	Conducted after possessions in classrooms 7, 9, 10, 11, 13, 15 and 16 were cleaned and disinfected
Pending:	No results pending

Date:	3/07 (Friday)
Test:	Surface mold testing of possessions which were cleaned and disinfected
Location:	Conducted in three (3) classrooms (15 & 16 and 9) with three (3) possessions / pieces of furniture tested in each room with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	10 samples
Time Due:	3 hours after receipt by lab (microscopy only)
Purpose:	To verify the effectiveness of cleaning and disinfecting possessions
Findings:	No mold or normal background levels of mold identified by optical microscopy (results received 3/08). No fungi were identified in any of the samples by culture and a normal background level of bacteria was identified in one (1) of the samples by culture while the other eight (8) samples had no bacteria identified by culture (results received 3/19).
Conditions:	Conducted after possessions in classrooms 15, 16 and 9 were cleaned and disinfected with a biocide by Away Env.
Pending:	No results pending

ENVIRONMENTAL ASSESSMENTS & SOLUTIONS, INC.

Date:	3/10 (Monday)
Test:	Surface mold testing of possessions and furniture which were NOT cleaned or disinfected
Location:	Conducted in five (5) classrooms (21, Multipurpose Room, 2, 5 and 17) with three (3) possessions / pieces of furniture tested in each room with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	16 samples
Time Due:	Standard turn-around time
Purpose:	To determine whether possessions and furniture need to be cleaned before being moved off-site as a follow up to the 3/01 round II air sample culture fungi results
Findings:	No mold or normal background levels of Ascospores sp., Aspergillus / Penicillium like spores, Basidiospores sp., Basidiomycetes sp. and Cladosporium sp. were identified by optical microscopy (results received 3/13). No bacteria were identified in any of the samples by culture and a normal background level of fungi was identified in one (1) of the samples while the other fourteen (14) samples had no fungi identified by culture (results received 3/18)
Conditions:	Possessions and furniture which were not cleaned or disinfected.
Pending:	No results are pending

Date:	3/10 (Monday)
Test:	Surface mold testing of the exposed earth within the earth crawlspace under the school building
Location:	Testing was conducted under classroom 6, under classroom 7 and under the main office
Method:	Optical microscopy (bulk - fungi) and culture (bulk - bacteria and fungi)
# of Samples:	3 samples
Time Due:	Standard turn-around time
Purpose:	To evaluate the extent of mold on the surface of the earth in the crawlspace
Findings:	At each location inspected the earth was damp and visibly mold stained / slimy with condensation dripping off of the ceiling fiberboard. Skirt wood within the crawlspace was heavily contaminated with Aspergillus / Penicillium like spores and Chaetomium by optical microscopy (results received 3/07) and had high counts of Bacteria: Bacillus sp., Pseudomonas sp. and Staphylococcus sp. and Fungi: Gliomastix sp., Monocillium sp., Acremonium sp., Verticillium sp. and Penicillium sp. (results received 3/14). The wood ceiling above the fiberboard and fiberglass batt insulation was visibly clean and dry and had normal background levels of Aspergillus / Penicillium like spores, Basidiospores and Cladosporium sp. by optical microscopy (results received 3/07) and no bacteria or fungi by culture (results received 3/14). The soil had normal background levels of Aspergillus / Penicillium like spores, Cladosporium sp. and Basidiospores by microscopy (results received 3/13) and very high counts of Bacteria: Bacillus sp. and Pseudomonas sp. and Fungi: Yeast sp. and Verticillium sp. by culture (results received 3/18).
Conditions:	Access into the crawlspace was provided by GSD who cut access ports through the exterior skirt
Pending:	No results are pending

Date:	3/12 (Wednesday)
Test:	Surface mold testing of possessions which were cleaned and disinfected
Location:	Conducted in several rooms (7) classrooms (27, 28, 6, 1, 17, 13 and 15) with at least one (1) possession tested in each room with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	9 samples
Time Due:	1 day after receipt by lab (microscopy only)
Purpose:	To verify the effectiveness of cleaning and disinfecting possessions
Findings:	No mold on seven (7)of the possessions and a normal background level of mold (Aspergillus / Penicillium like spores, Chaetomium sp. and Stachybotrys sp.) on one (1) of the possessions identified by optical microscopy (results received 3/17). No fungi or bacteria were identified in any of the samples by culture (results received 3/21).
Conditions:	Conducted after possessions in classrooms 27, 28, 6, 1, 17, 13 and 15) were cleaned and disinfected with a biocide by Away Env.
Pending:	No results are pending

Date:	3/13 (Thursday)
Test:	Surface mold testing of possessions which were cleaned and disinfected
Location:	Conducted in several rooms (7) classrooms (18, 11, 12, 4, 5, 2 and 3) with at least one (1) possession tested in each room with a quality control sample
Method:	Optical microscopy (tape lift - fungi) and culture (swab - bacteria and fungi)
# of Samples:	9 samples
Time Due:	1 day after receipt by lab (microscopy only)
Purpose:	To verify the effectiveness of cleaning and disinfecting possessions
Findings:	No mold or normal background levels of mold (Cladosporium sp., Periconia / Smut / Myxo) identified in three (3) of the samples by optical microscopy while the other five (5) samples had no fungi identified by optical microscopy (results received 3/17). No fungi or bacteria were identified in any of the samples by culture (results received 3/21).
Conditions:	Conducted after possessions in classrooms 18, 11, 12, 4, 5, 2 and 3 were cleaned and disinfected with a biocide by Away Env.
Pending:	No results are pending

STANDARDS:	There are no mold standards for bacteria and fungi in air or on surfaces. Professional evaluation of results are required.
	CT Standard Dept. of Public Health has a residential guideline of 0.1 ppm for Formaldehyde in air.