

February 1, 2011

Project BL-11-00201

Mr. Roger Broz  
Facilities Director  
Minneapolis Community & Technical College  
1501 Hennepin Avenue  
Minneapolis, MN 55403

Re: Results of Surface Dust Composition Analyses  
Helland Student Center Project  
Purchase Order No. 63757

Dear Mr. Broz:

This report provides the analytical results of the surface dust samples collected within the Helland Student Center by Braun Intertec Corporation.

## Summary of Results

Two bulk samples of residual surface dust were collected from each level within the facility on January 31, 2011. The samples were analyzed to determine the presence of asbestos and the compositional make-up of the surface dust. The following provides a summary of the results by floor level and location.

### Fifth Floor

- A sample (sample no. 1) of residual surface dust was collected from the top of the glass display case adjacent to conference room H.5000 and directly across from the entrance to stairwell B. The surface dust consisted primarily of cellulose or paper dust (69 %), organic shavings (20 %), and synthetic fibers (10 %).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 2) of residual surface dust was collected from the top of the fire alarm pull switch and the top of the wall signs for Stairwell A and office H.5110. The surface dust consisted primarily of cellulose or paper dust (69 %), and synthetic fibers (20 %).

There was no asbestos detected in the surface dust sample.

### Fourth Floor

- A composite sample (sample no. 3) of residual surface dust was collected from the top of the fire alarm pull switch near stairwell A and the top of the door sign for offices H.4145, H.4143, H.4142 and H4141. The surface dust consisted primarily of cellulose or paper dust (89 %), and synthetic fibers (10 %).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 4) of residual surface dust was collected from the top of the fire alarm pull switch and top of the glass display case near stairwell B, and the top of the overhead

workstation cabinet across from the stairwell. The surface dust consisted primarily of cellulose or paper dust (79 %), and synthetic fibers (20 %).

There was no asbestos detected in the surface dust sample.

### **Third Floor**

- A composite sample (sample no. 5) of residual surface dust was collected from the window frame ledges within the skyway tunnel. The surface dust consisted primarily of cellulose or paper dust (84 %), synthetic fibers (10 %), and opaques (5%).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 6) of residual surface dust was collected from the top of the sign, light housing, and hand-rails within stairwell B. The surface dust consisted primarily of cellulose or paper dust (76 %), skin cells/dander (20 %), and synthetic fibers (3 %).

There was no asbestos detected in the surface dust sample.

### **Second Floor**

- A composite sample (sample no. 7) of residual surface dust was collected from a couple of the window ledges directly across from the temporary sheetrock wall barrier and west of the elevator lobby. The surface dust consisted primarily of mineral fragments (60 %), cellulose (35 %), and synthetic fibers (2 %).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 8) of residual dust was collected from the top of various wall signs within the main hallway in the classroom area (i.e., hallway to the east of the main hallway that runs parallel with the temporary sheetrock wall barrier). The surface dust consisted primarily of cellulose (95 %).

There was no asbestos detected in the surface dust sample.

### **First Floor**

- A composite sample (sample no. 9) of residual surface dust was collected from the top of the emergency phone box and wall directory sign within the main hallway outside of H.1100. The surface dust consisted primarily of cellulose (60 %), mineral fragments (30 %), mica (5 %), and synthetic fibers (2 %).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 10) of residual dust was collected from the top of the metal file cabinets in the H.1400 open office area and the top of the workstation wall panels across from H.1411. The surface dust consisted primarily of cellulose (90 %), skin cells/dander (5 %), and synthetic fibers (2 %).

### **Basement Level**

- A composite sample (sample no. 11) of residual surface dust was collected from the Level Directory wall sign base and the top of the door signs to the men's restroom and H.0200. The surface dust consisted primarily of cellulose (96 %), and skin cells/dander (2 %).

There was no asbestos detected in the surface dust sample.

- A composite sample (sample no. 12) of residual dust was collected from the top of the lower two stairway hand rails and top of the wall light frame within the stairwell B landing. The surface dust consisted primarily of cellulose (85 %), skin cells/dander (5 %), mineral fragments (5 %), and synthetic fibers (2 %).

Refer to the attached Laboratory Reports (Work Order #1100533; 1100529) which provide the dust composition and asbestos analytical results for each sample, respectively.

### **Site Description**

The western side of floors 1-3 within the Helland Student Center is currently undergoing renovation. This evaluation was requested to assess what if any impact the construction activities may have on the residual surface dust loading within the occupied areas adjacent to the designated construction zone.

### **Methodology**

Representative bulk samples of residual surface dust were collected in sterile Whirlpak bags using a pre-cleaned razor blade. The samples were analyzed to determine the presence of asbestos and compositional make-up of the dust using polarized light microscopy. The analyses were performed by the Braun Intertec microscopy laboratory.

### **Discussion**

In regards to the typical make-up of surface dust within an office or classroom environment, cellulose is one of the primary or more prevalent constituents present. Cellulose is fibrous in nature and is considered to be a nuisance particulate with no toxic properties. Other typical or normal constituents may include synthetic fibers and skin cells/dander. Based on the surface dust analyses results, cellulose was the predominant constituent detected in 10 of the 12 samples collected.

Mineral fragments accounted for 60 % of the residual dust along the window ledge surfaces on the second floor directly north of the temporary sheetrock wall barrier. Similarly, mineral fragments and mica accounted for 30 % and 5 % respectively, of the residual dust collected within the 1<sup>st</sup> floor hallway directly out from the temporary sheetrock wall barrier. It is possible that the recent demolition of the concrete stairwell within the north end of the construction zone may have slightly contributed to the surface dust load in these areas. However, it should be noted that additional control measures have been implemented since the completion of the stairwell demolition work to further minimize or prevent the emission of dusts generated within the construction area from migrating out into the adjacent

occupied areas within the building. Secondly, the initial weekly measurement for airborne particulates (PM10) did not detect any significant or elevated levels of dust within the specified occupied areas of the building.

In closing, the following provides a summary of the approximate particle size breakdown for some of the dust constituents detected, as reported by our microscopy analyst.

- Mineral fragments were relatively small in diameter (i.e., less than 10 micrometers) in all of the samples except for sample no. 9 which consisted primarily of sand mostly 1-2 millimeters in diameter.
- Opaques were less than 20 micrometers in diameter.
- Skin cells/dander ranged from 10-50 micrometers in diameter except for sample no. 12 where they were somewhat larger in size (10-100 micrometers in diameter).

This report is issued in accordance with our General Conditions (6-15-06). If you have any questions or require further assistance, please call me at 952.995.2482.

Sincerely,

BRAUN INTERTEC CORPORATION



Gregory G. Olson, CIH  
Senior Industrial Hygienist

Attachments: Laboratory Reports (Work Order #1100533; Work Order #1100529)

Mr. Greg Olson  
Braun Intertec-Bloomington  
11001 Hampshire Ave. South  
Bloomington, MN 55438

February 01, 2011

Work Order #: 1100533

RE: Helland Student Center

BL-11-00201 Phase A

Dear Greg Olson:

### **Dust Composition Report**

The microscopy department of Braun Intertec Corporation received your analytical request on January 31, 2011. The objective of this analysis was to determine the composition of dust using polarized light microscopy (PLM). Analytical results are summarized on the following laboratory report.

### **Methodology**

Dust sample analysis is conducted in accordance with the Environmental Protection Agency's (EPA) methods 40 CFR, Part 763, Ch. 1, Subpart F, Appendix A (7-1-87 Edition) and EPA/600/R-93/116. All analyses are in compliance with the quality control procedures specified by the methods. Detailed quality control information is available upon request.

### **Remarks**

Braun Intertec is accredited by the National Institute of Standards and Technology's (NIST), National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for bulk asbestos identification under Lab Code 101234-0. This report in no way constitutes or implies product certification, approval or endorsement by NVLAP or any other agency of the U.S. Government. This report relates only to the items submitted for analysis.

February 01, 2011

Work Order #: 1100533

Samples are retained at our laboratory for a period of 30 days and will be disposed of unless instructed otherwise by the client.

This report is issued under terms of our General Conditions. It can not be copied, except in its entirety, without prior written permission from Braun Intertec.

We appreciate your decision to use Braun Intertec Corporation for this project. We are committed to being your vendor of choice to meet your analytical needs.

If you have any questions please contact me at 952.995.2688.

Sincerely,

**Braun Intertec Corporation**



Steve Felton  
Project Manager

**Dust Composition Analysis**

**Project:** Helland Student Center

**Work Order #:** 1100533

**Date:** January 31, 2011

Sample #	Description	Composition	Estimated %
1100533 - 1	5th Floor Gray fibrous dust	Cellulose Organic? Shavings Synthetic Fibers Hair Skin Cells/Dander Opagues Leather Feather Insect Parts	69 20 10 <1 <1 <<1 <<1 <<1 <<1
1100533 - 2	5th Floor Gray fibrous dust	Cellulose Synthetic Fibers Hair Opagues Hyphal Fragments	69 20 <1 <<1 <<1
1100533 - 3	4th Floor Gray fibrous dust	Cellulose Synthetic Fibers Hair Opagues Mineral Fragments	89 10 <1 <<1 <<1

1100533 - 4	4th Floor Gray fibrous dust	Cellulose Synthetic Fibers Hair Opagues	79 20 <1 <<1
1100533 - 5	3rd Floor Gray fibrous dust	Cellulose Synthetic Fibers Opagues Hair Glass Fibers Mineral Fragments Skin Cells/Dander	84 10 5 <1 <<1 <<1 <<1
1100533 - 6	3rd Floor Gray powdery dust	Cellulose Skin Cells/Dander Synthetic Fibers Glass Fibers Mineral Fragments Opagues Rust Flakes Fungal Spores Pollen Grains	76 20 3 <<1 <<1 <<1 <<1 <<1 <<1
1100533 - 7	2nd Floor Gray fibrous dust	Mineral Fragments Cellulose Synthetic Fibers Glass Fibers Skin Cells/Dander Hair Metal Shavings Paint Opagues Rust Flakes	60 35 2 1 1 <1 <1 <1 <1 <<1
1100533 - 8	2nd Floor Gray fibrous dust	Cellulose Synthetic Fibers Mineral Fragments Skin Cells/Dander Opagues Hair Rust Flakes Fungal Spores	95 1 1 1 1 <1 <<1 <<1

1100533 - 9	1st Floor Gray fibrous dust	Cellulose Mineral Fragments Mica Synthetic Fibers Hair Glass Fibers Skin Cells/Dander Opagues Feather Starch Grains	60 30 5 2 <1 <1 <1 <1 <1 <<1
1100533 - 10	1st Floor Gray fibrous dust	Cellulose Skin Cells/Dander Synthetic Fibers Mineral Fragments Hair Glass Fibers Opagues Fungal Spores,Hyphal Frags	90 5 2 1 <1 <1 <1 <<1
1100533 - 11	Basement Gray fibrous dust	Cellulose Skin Cells/Dander Synthetic Fibers Mineral Fragments Hair	96 2 1 <1 <1
1100533 - 12	Basement Gray fibrous dust	Cellulose Skin Cells/Dander Mineral Fragments Synthetic Fibers Opagues Hair Rust Flakes Starch Grains Fungal Spores	85 5 5 2 1 <1 <1 <<1 <<1

