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## Discovery Environmental Inspection Report

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### Project Contact Information

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| Crossland High School<br>6901 Temple Hills Road<br>Temple Hills, MD 20748<br>320,000 Sqft | Alex Baylor<br>Environmental Specialists<br>Environmental Safety Office<br>13306 Old Marlboro Pike<br>Upper Marlboro, MD 20772<br>301-952-6760 | Vinny Gigliotti<br>Environmental Solutions Inc.<br>6114 Drum Point Rd<br>Deale, MD 20751<br>(410)- 867-6262<br>vinny@esi4u.com |
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### Property Location

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Date of Inspection 2/16/2019



Prepared By: **Vinny Gigliotti**

Certified Indoor Environmentalist (CIE)

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Dear Mr. Baylor,

The results of the inspection and testing performed at Crossland High School are concluded and the findings are enclosed. I want to thank you for allowing ESI the opportunity to service your indoor environmental needs. Included in this report are the observations, lab results, and recommendations from ESI's 2/16/19 inspection and testing.

### **Background Information**

The Prince Georges County Public School Environmental Team has taken a proactive approach in cleaning the above-mentioned school to ensure there are no health or environmental risks related to microbial and biological hazards. Historically elevated levels of humidity, condensation from pipes, periodic steam leaks, and outdated HVAC systems, may have contributed to water damaged ceiling tiles and colonization of mold spores in various area of the school.

### **Purpose**

ESI was engaged to inspect the school in a random sufficient manner. Classrooms, administration offices, and common area building materials and contents, will be visually inspected for water damage and microbial growth.

In each location inspected, the indoor air quality will be tested for elevated levels of carbon dioxide and carbon monoxide, in addition to measuring the relative humidity and temperature. Microbial / biological hazards within the breathable air space will also be tested.

Based upon the visible assessment, instrument readings and lab results, ESI will determine if additional remediation is required.

### **Observations and instrument readings**

The following table is designed for this project. Some of the fields may not be filled in due to not being applicable during the time of the inspection. You will notice either a 'YES' or 'NO' in the table. 'YES' indicates that mold and /or water damage was detected and 'NO' indicates it was not. If 'YES' is noted, remediation recommendation will be included for the area inspected.

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 128  | 2374549      | None          | 12.8            | 71.2   | 456               | 000       | 10,080             |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 2               | 8      | 1                 | None      | 4                  | 2       |
| No   | No           | No            | No              | No     | No                |           | No                 | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample #   | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|----------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| <b>126</b>  | <b>2368077</b> | None          | 13.6            | 71.2   | 480               | 000       | 12,096             |         |
| Inspected   |                |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls          | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU            | 1             | 0               | 12     | 4                 | None      | 4                  | 0       |
| No  | No             | No            |                 | No     | <b>YES</b>        |           | Rust               |         |
| Inspected   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There was suspected microbial growth and water staining in the sink cabinetry.</li> <li>• There was staining and discolorations on the room divider.</li> <li>• Light rust stains and discolorations were seen on the diffusors.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 120 spores per cubic meter of air.</li> </ul> |                |               |                 |        |                   |           |                    |         |
| Recommendations   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• HEPA vacuum, then damp wipe the sink cabinetry with an anti-microbial agent.</li> </ul>  |                |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample #   | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|----------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 120   | <b>2368080</b> | None          | 16.3            | 74.1   | 488               | 000       | 11,015             |         |
| <b>Inspected</b>  |                |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls          | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU            | 1             | 32              | 6      | 4                 | None      | 5                  | 0       |
| No  | No             | No            | No              | No     | No                |           | <b>YES</b>         |         |
| <b>Observation Notes</b>  |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were light accumulations of dust and microbial growth on the diffusors.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |                |               |                 |        |                   |           |                    |         |
| <b>Recommendations</b>  |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Clean diffusors with an antimicrobial to remove visible contamination.</li> </ul>  |                |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 114   | 2374542      | None          | 13.4            | 75.0   | 439               | 000       | 12,375             |         |
| <b>Inspected</b>  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU          | 1             | 34              | 7      | 4                 | None      | 5                  | 0       |
| <b>YES</b>  | No           | No            | No              | No     | No                |           | No                 |         |
| <b>Observation Notes</b>  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Ten ceiling tiles were water stained.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| <b>Recommendations</b>  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Remove and replace the water damaged ceiling tiles.</li> </ul>   |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 116  | 2374541      | None          | 10.5            | 73.4   | 413               | 000       | 11,070             |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 42              | 2      | 5                 | None      | 6                  | 1       |
| YES  | No           | No            | No              | No     | No                |           | Rust               | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>The ceiling tiles around the diffusors had light water staining.</li> <li>One off set ceiling tile had visible water staining.</li> <li>There was light rust and discolorations on the diffusors.</li> <li>The indoor air quality should pose no health or environmental risk, as the spore count was 120 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Remove and replace the water damaged ceiling tiles.</li> </ul>  |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 103  | 2374540      | None          | 11.8            | 71.0   | 432               | 000       | 7,776              |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 2             | 41              | 9      | 1                 | None      | 4                  | 1       |
| YES  | No           | No            | No              | No     | No                |           | Rust               | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Two ceiling tiles were water stained near the window.</li> <li>There was light rust spotting on the diffusors.</li> <li>The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Remove and replace the water damaged ceiling tiles.</li> </ul>  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 106   | 2374528      | None          | 9.7             | 76.2   | 434               | 000       | 13,200             |         |
| <b>Inspected</b>  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU          | 4             | 3               | 3      | 8                 | None      | 4                  | 0       |
| No  | No           | No            | No              |        | No                |           | Rust               |         |
| <b>Inspected</b>  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were discolorations on the ceiling tiles near right rear diffusor.</li> <li>• There was light rust on the diffusors.</li> <li>• There was water staining on the left rear ceiling light lens.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 80 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| <b>Recommendations</b>  |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 109  | 2374538      | None          | 14.6            | 73.4   | 688               | 000       | 9,500              |         |
| <b>Inspected</b>   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 32              | 0      | 1                 | None      | 4                  | 2       |
| No   | No           | No            | No              |        | No                |           | Rust               | No      |
| <b>Observation Notes</b>   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spores count was 320 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| <b>Recommendations</b>   |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 7  | 2374529      | None          | 11.9            | 73.7   | 453               | 000       | 8,892              |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 0               | 14     | 10                | None      | 4                  | 4       |
| No   | No           | No            |                 | No     | No                |           | Rust               | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There was light rust on the diffusors.</li> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 203  | 2374532      | None          | 10.8            | 74.4   | 438               | 000       | 6,975              |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 30              | 1      | 2                 | None      | 4                  | 1       |
| No   | No           | No            | No              | No     | No                |           | Rust               | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There was rust on the diffusors.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 80 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 210   | 2374533      | None          | 9.7             | 75.0   | 438               | 000       | 6,975              |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| Metal Pan   | CMU          | 1             | 34              | 0      | 4                 | None      | 4                  | 0       |
| Rust  | No           | No            | No              |        | No                |           | Rust               |         |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Several ceiling tiles contained rust throughout the room.</li> <li>• There was rust on the diffusors.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 227   | 2374534      | None          | 13.5            | 72.3   | 478               | 000       | 7,200              |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| Metal Pan   | CMU          | 1             | 34              | 2      | 4                 | None      | 4                  | 2       |
| Rust  | No           | No            | No              | No     | No                |           | Rust               | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Several ceiling tiles contained rust throughout the room.</li> <li>• There was rust on the diffusors.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |



| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| Cafeteria  | 2374477      | None          | 28              | 59     | 409               | 012       | 50,000             |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | Brick        | 0             | 0               | 50     | 0                 | 0         | 10                 | 3       |
| <b>YES</b>   | No           |               |                 | No     |                   |           | Rust               | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Six ceiling tiles were water stained, but did not contain visible microbial growth.</li> <li>The tables did not contain visible microbial growth, but gum and mucus were discovered.</li> <li>The indoor air quality should pose no health or environmental risk, as the spore count was 80 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Remove and replace the water damaged ceiling tiles.</li> </ul>  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample #   | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|----------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| <b>Mail Room</b>  | <b>2374485</b> | Diffusors     | 15              | 68     | 437               | 012       | 4,172              |         |
| Inspected   |                |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls          | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| Metal Pan   | CMU            | 0             | 0               | 0      | 3                 | None      | 3                  | 0       |
| <b>YES</b>  | No             |               |                 |        | No                |           | <b>YES</b>         |         |
| Observation Notes   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>The ceiling tiles were water damaged in both corners of the room.</li> <li>There was visible microbial growth on the ceiling tiles surrounding the HVAC diffusors. A surface swab was collected from the diffuser for Direct Identification Analysis. The Analysis indicates the presence of "Light" Cladosporium and "Rare" Alternaria, Ascospores, Basidiospores, Curvularia and Smuts/Myxomycetes.</li> <li>The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |                |               |                 |        |                   |           |                    |         |
| Recommendations   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>Remove and replace the water damaged and contaminated ceiling tiles. The ceiling tiles should be placed in a sealed plastic bag for disposal.</li> <li>Clean diffusors with an anti-microbial agent.</li> </ul>  |                |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample #   | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|----------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| <b>Career Room</b>  | <b>2374486</b> | None          | 16              | 71     | 496               | 012       | 7,038              |         |
| Inspected   |                |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls          | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU            | 1             | 5               | 2      | 2                 | None      | 2                  | 0       |
| <b>YES</b>  | No             | No            | No              | No     | No                |           | No                 |         |
| Observation Notes   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Eight ceiling tiles were water stained and one had visible microbial growth.</li> <li>• The diffusors had minimal rust and showed signs of being cleaned.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |                |               |                 |        |                   |           |                    |         |
| Recommendations   |                |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• Remove and replace the water damaged and contaminated ceiling tiles. The ceiling tiles should be placed in a sealed plastic bag for disposal.</li> </ul>   |                |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample #   | Swab          | R/H             | Temp       | CO2               | Co        | Cubic feet of air. |         |
|--|----------------|---------------|-----------------|------------|-------------------|-----------|--------------------|---------|
| <b>Dance Room</b>  | <b>2374467</b> | Round Table   | 17              | 76         | 521               | 011       | 9,480              |         |
| Inspected  |                |               |                 |            |                   |           |                    |         |
| Ceiling Tiles  | Walls          | Teachers Desk | Children's Desk | Tables     | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU            | 1             | 0               | 2          | 0                 | None      | 4                  | 0       |
| No   | No             | No            |                 | <b>YES</b> |                   |           | No                 |         |
| Observation Notes  |                |               |                 |            |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• The round table contained minimal amount of visible microbial growth. A surface swab was collected from the round table for Direct Identification Analysis. The Analysis indicates the presence of "Light" Aspergillus.</li> <li>• The indoor air quality should pose no health or environmental risk, as the spore count was 320 spores per cubic meter of air.</li> </ul> |                |               |                 |            |                   |           |                    |         |
| Recommendations  |                |               |                 |            |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• HEPA vacuum, then damp wipe the round table with an anti-microbial agent.</li> </ul>  |                |               |                 |            |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| Computer Network  | 2374478      | None          | 11              | 71     | 400               | 018       | 31,624             |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x8   | CMU          | 1             | 16              | 10     | 6                 | 6         | 2                  | 4       |
| No  | No           | No            | No              | No     | No                | No        | No                 | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 200 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| Music Room  | 2374487      | None          | 16              | 71     | 389               | 017       | 30,068             |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x8   | CMU          | 1             | 58              | 0      | 1                 | None      | 14                 | 6       |
| No  | No           | No            | No              |        | No                |           | No                 | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 280 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 311   | 2374475      | None          | 12              | 70     | 458               | 020       | 8,982              |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x8   | CMU          | 0             | 13              | 0      | 0                 | 4         | 0                  | 2       |
| No  | No           | No            | No              |        |                   | No        |                    | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 280 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 312   | 2374495      | None          | 18              | 73     | 704               | 019       | 11,955             |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convactor | HVAC Diffusors     | Windows |
| 2x4   | CMU          | 1             | 20              | 0      | 0                 | 1         | 5                  | 2       |
| No  | No           | No            | No              |        |                   | No        | No                 | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 800 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| Common Hallway  | 2374492      | None          | 15              | 75     | 689               | 018       | -----              |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4   | CMU          | --            | --              | --     | --                | 8         | 0                  | 4       |
| No  | No           |               |                 |        |                   | No        |                    | No      |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 120 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 211  | 2374493      | None          | 16              | 73     | 428               | 012       | 6,870              |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 1             | 40              | 0      | 1                 | None      | 4                  | 2       |
| No   | No           | No            | No              |        | No                |           | No                 | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 80 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location   | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|--|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 221  | 2374496      | None          | 12              | 71     | 430               | 024       | 6,938              |         |
| Inspected  |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles  | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| 2x4  | CMU          | 2             | 36              | 1      | 2                 | None      | 4                  | 2       |
| No   | No           | No            | No              | No     | No                |           | No                 | No      |
| Observation Notes  |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 40 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations  |              |               |                 |        |                   |           |                    |         |
| NONE   |              |               |                 |        |                   |           |                    |         |

| Location  | IAQ Sample # | Swab          | R/H             | Temp   | CO2               | Co        | Cubic feet of air. |         |
|---|--------------|---------------|-----------------|--------|-------------------|-----------|--------------------|---------|
| 233   | 2374494      | None          | 15              | 71     | 711               | 014       | 9,985              |         |
| Inspected   |              |               |                 |        |                   |           |                    |         |
| Ceiling Tiles   | Walls        | Teachers Desk | Children's Desk | Tables | Cabinets Shelving | Convector | HVAC Diffusors     | Windows |
| Metal Pan   | CMU          | 1             | 0               | 7      | --                | None      | 6                  | --      |
| Rusty   | No           | No            |                 | No     |                   |           | No                 |         |
| Observation Notes   |              |               |                 |        |                   |           |                    |         |
| <ul style="list-style-type: none"> <li>• There were NO signs of mold growth or elevated levels of moisture detected within this location.</li> <li>• The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spores count was 80 spores per cubic meter of air.</li> </ul> |              |               |                 |        |                   |           |                    |         |
| Recommendations   |              |               |                 |        |                   |           |                    |         |
| NONE  |              |               |                 |        |                   |           |                    |         |

**Interpretation of Lab Results**

In the enclosed Air Cassette Analysis report, you will notice Fungal Identification, which is the species detected in the breathable airspace inside, and outside. The Raw count is the actual number of spores counted on the slide, and the Count/m3 are the spores per cubic meter of air. The other particles are non-living particles such as dander, mycelial fragments, pollens, etc.

In order for humans to be exposed indoors, fungal spores, fragments, or metabolites must be released into the air and inhaled, physically contacted (dermal exposure), or ingested. Whether symptoms develop in people exposed to fungi depends on the nature of the fungal material (e.g., allergenic, toxic, or infectious), the amount of exposure, and the susceptibility of exposed persons.

Susceptibility varies with genetic predisposition (e.g., allergic reactions do not always occur in all individuals), age, state of health, and concurrent exposures.

**Air Sampling Lab Results**



Name: Environmental Solutions, Inc  
 Address: 534-A Deale Road  
 Deale, MD 20751  
 Phone: 410-867-6262

Project Number: 6901  
 P.O. Number: VJG  
 Project Name: Crossland High School  
 Collected Date: 2/16/2019  
 Received Date: 2/18/2019 8:55:00 AM

SanAir ID Number  
 19007306  
 FINAL REPORT  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

**Air Cassette Analysis**

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-003            |                            |          | 19007306-004            |                            |          | 19007306-005            |                            |          | 19007306-006            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          |
| Sample Number                | 2374549                 |                            |          | 2374542                 |                            |          | 2368077                 |                            |          | 2368080                 |                            |          |
| Sample Identification        | Room 128                |                            |          | Room 114                |                            |          | Room 126                |                            |          | Room 120                |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1+                      |                            |          | 1+                      |                            |          | 1+                      |                            |          | 1                       |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 17                      | 680                        | n/a      | 4                       | 160                        | n/a      | 10                      | 400                        | n/a      | 3                       | 120                        | n/a      |
| Fibers                       | 5                       | 200                        | n/a      | 1                       | 40                         | n/a      | 1                       | 40                         | n/a      | 3                       | 120                        | n/a      |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      |                         |                            |          |                         |                            |          | 2                       | 80                         | 67       |                         |                            |          |
| Basidiospores                | 1                       | 40                         | >99      |                         |                            |          | 1                       | 40                         | 33       | 1                       | 40                         | >99      |
| Cladosporium species         |                         |                            |          | 1                       | 40                         | >99      |                         |                            |          |                         |                            |          |
| <b>TOTAL</b>                 | <b>1</b>                | <b>40</b>                  |          | <b>1</b>                | <b>40</b>                  |          | <b>3</b>                | <b>120</b>                 |          | <b>1</b>                | <b>40</b>                  |          |

Signature: *K. Smith*

Date: 2/20/2019

Reviewed: *Johnathan Wilson*

Date: 2/20/2019



**Name:** Environmental Solutions, Inc  
**Address:** 534-A Deale Road  
 Deale, MD 20751  
**Phone:** 410-867-6262

**Project Number:** 6901  
**P.O. Number:** VJG  
**Project Name:** Crossland High School  
**Collected Date:** 2/16/2019  
**Received Date:** 2/18/2019 8:55:00 AM

SanAir ID Number  
**19007306**  
**FINAL REPORT**  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-007            |                            |          | 19007306-008            |                            |          | 19007306-009              |                            |          | 19007306-010            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|---------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                      |                            |          | 107C                    |                            |          |
| Sample Number                | 2374541                 |                            |          | 2374540                 |                            |          | 2374528                   |                            |          | 2374538                 |                            |          |
| Sample Identification        | Room 116                |                            |          | Room 103                |                            |          | Room 106 - Evening School |                            |          | Room 109                |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5    |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters                 |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup>   |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1+                      |                            |          | 1+                      |                            |          | 2                         |                            |          | 2                       |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>          | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 16                      | 640                        | n/a      | 16                      | 640                        | n/a      | 23                        | 920                        | n/a      | 42                      | 1880                       | n/a      |
| Fibers                       | 2                       | 80                         | n/a      | 2                       | 80                         | n/a      | 1                         | 40                         | n/a      | 5                       | 200                        | n/a      |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>          | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      | 3                       | 120                        | >99      |                         |                            |          | 1                         | 40                         | 50       | 3                       | 120                        | 38       |
| Basidiospores                |                         |                            |          | 1                       | 40                         | >99      | 1                         | 40                         | 50       | 4                       | 160                        | 50       |
| Cladosporium species         |                         |                            |          |                         |                            |          |                           |                            |          | 1                       | 40                         | 13       |
| <b>TOTAL</b>                 | <b>3</b>                | <b>120</b>                 |          | <b>1</b>                | <b>40</b>                  |          | <b>2</b>                  | <b>80</b>                  |          | <b>8</b>                | <b>320</b>                 |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019





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**Project Number:** 6901  
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SanAir ID Number  
**19007306**  
**FINAL REPORT**  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-011            |                            |          | 19007306-012            |                            |          | 19007306-013            |                            |          | 19007306-014            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          |
| Sample Number                | 2374529                 |                            |          | 2374532                 |                            |          | 2374533                 |                            |          | 2374534                 |                            |          |
| Sample Identification        | Room 7 - Visual Arts    |                            |          | Room 203                |                            |          | Room 210                |                            |          | Room 227                |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1+                      |                            |          | 1                       |                            |          | 1+                      |                            |          | 1+                      |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 3                       | 120                        | n/a      | 4                       | 160                        | n/a      | 12                      | 480                        | n/a      | 13                      | 520                        | n/a      |
| Fibers                       | 2                       | 80                         | n/a      |                         |                            |          |                         |                            |          |                         |                            |          |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      |                         |                            |          | 1                       | 40                         | 50       |                         |                            |          |                         |                            |          |
| Basidiospores                | 1                       | 40                         | >99      | 1                       | 40                         | 50       |                         |                            |          | 1                       | 40                         | >99      |
| Cladosporium species         |                         |                            |          |                         |                            |          | 1                       | 40                         | >99      |                         |                            |          |
| <b>TOTAL</b>                 | <b>1</b>                | <b>40</b>                  |          | <b>2</b>                | <b>80</b>                  |          | <b>1</b>                | <b>40</b>                  |          | <b>1</b>                | <b>40</b>                  |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019



**Name:** Environmental Solutions, Inc  
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**Project Number:** 6901  
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**Project Name:** Crossland High School  
**Collected Date:** 2/16/2019  
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**SanAir ID Number**  
**19007306**  
**FINAL REPORT**  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-015            |                            |          | 19007306-016            |                            |          | 19007306-017            |                            |          | 19007306-018            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          |
| Sample Number                | 237-4477                |                            |          | 237-4485                |                            |          | 237-4486                |                            |          | 237-4467                |                            |          |
| Sample Identification        | Cafeteria               |                            |          | Mail Room               |                            |          | Career Room             |                            |          | Dance Room              |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1                       |                            |          | 1+                      |                            |          | 1+                      |                            |          | 1+                      |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 1                       | 40                         | n/a      | 9                       | 360                        | n/a      | 12                      | 480                        | n/a      | 6                       | 240                        | n/a      |
| Fibers                       |                         |                            |          | 2                       | 80                         | n/a      | 2                       | 80                         | n/a      | 1                       | 40                         | n/a      |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      |                         |                            |          |                         |                            |          |                         |                            |          | 1                       | 40                         | 13       |
| Basidiospores                | 1                       | 40                         | 50       | 1                       | 40                         | >99      |                         |                            |          | 5                       | 200                        | 63       |
| Cladosporium species         | 1                       | 40                         | 50       |                         |                            |          | 1                       | 40                         | >99      | 2                       | 80                         | 25       |
| <b>TOTAL</b>                 | <b>2</b>                | <b>80</b>                  |          | <b>1</b>                | <b>40</b>                  |          | <b>1</b>                | <b>40</b>                  |          | <b>8</b>                | <b>320</b>                 |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019



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 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-019            |                            |          | 19007306-020            |                            |          | 19007306-021            |                            |          | 19007306-022            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          |
| Sample Number                | 237-4478                |                            |          | 237-4487                |                            |          | 237-4475                |                            |          | 237-4495                |                            |          |
| Sample Identification        | Computer Network        |                            |          | Music Room              |                            |          | Engineer 311            |                            |          | Culinary Arts           |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1+                      |                            |          | 1+                      |                            |          | 1+                      |                            |          | 2                       |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 9                       | 360                        | n/a      | 5                       | 200                        | n/a      | 5                       | 200                        | n/a      | 26                      | 1040                       | n/a      |
| Fibers                       | 1                       | 40                         | n/a      |                         |                            |          |                         |                            |          | 3                       | 120                        | n/a      |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      | 2                       | 80                         | 40       | 1                       | 40                         | 14       | 1                       | 40                         | 14       | 5                       | 200                        | 25       |
| Basidiospores                | 3                       | 120                        | 60       | 6                       | 240                        | 86       | 6                       | 240                        | 86       | 2                       | 80                         | 10       |
| Cladosporium species         |                         |                            |          |                         |                            |          |                         |                            |          | 13                      | 520                        | 65       |
| <b>TOTAL</b>                 | <b>5</b>                | <b>200</b>                 |          | <b>7</b>                | <b>280</b>                 |          | <b>7</b>                | <b>280</b>                 |          | <b>20</b>               | <b>800</b>                 |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019



**Name:** Environmental Solutions, Inc  
**Address:** 534-A Deale Road  
 Deale, MD 20751  
**Phone:** 410-867-6262

**Project Number:** 6901  
**P.O. Number:** VJG  
**Project Name:** Crossland High School  
**Collected Date:** 2/16/2019  
**Received Date:** 2/18/2019 8:55:00 AM

SanAir ID Number  
**19007306**  
**FINAL REPORT**  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

| SanAir ID Number             | 19007306-023            |                            |          | 19007306-024            |                            |          | 19007306-025            |                            |          | 19007306-026            |                            |          |
|------------------------------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|-------------------------|----------------------------|----------|
| Analysis Using STL           | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          | 107C                    |                            |          |
| Sample Number                | 237-4492                |                            |          | 237-4493                |                            |          | 237-4496                |                            |          | 237-4494                |                            |          |
| Sample Identification        | Common Hallway          |                            |          | Room 211                |                            |          | Room 221                |                            |          | Room 233                |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 2+                      |                            |          | 1+                      |                            |          | 1+                      |                            |          | 1                       |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 127                     | 5080                       | n/a      | 6                       | 240                        | n/a      | 6                       | 240                        | n/a      | 4                       | 160                        | n/a      |
| Fibers                       | 9                       | 360                        | n/a      |                         |                            |          | 4                       | 160                        | n/a      |                         |                            |          |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      | 1                       | 40                         | 33       | 1                       | 40                         | 50       |                         |                            |          |                         |                            |          |
| Basidiospores                | 2                       | 80                         | 67       | 1                       | 40                         | 50       | 1                       | 40                         | >99      | 2                       | 80                         | >99      |
| Cladosporium species         |                         |                            |          |                         |                            |          |                         |                            |          |                         |                            |          |
| <b>TOTAL</b>                 | <b>3</b>                | <b>120</b>                 |          | <b>2</b>                | <b>80</b>                  |          | <b>1</b>                | <b>40</b>                  |          | <b>2</b>                | <b>80</b>                  |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019



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SanAir ID Number  
**19007306**  
 FINAL REPORT  
 2/20/2019 11:58:00 AM

Analyst: Smith, Kiersten

### Air Cassette Analysis

*ND - None Detected. Blank spaces indicate no spores detected.*

|                              |                         |                            |          |
|------------------------------|-------------------------|----------------------------|----------|
| <b>SanAir ID Number</b>      | 19007306-027            |                            |          |
| Analysis Using STL           | 107C                    |                            |          |
| Sample Number                | 237-4476                |                            |          |
| Sample Identification        | Outside Control Sample  |                            |          |
| Sample Type                  | Air Cassette - Micro-5  |                            |          |
| Volume                       | 25 Liters               |                            |          |
| Analytical Sensitivity       | 40 Count/M <sup>3</sup> |                            |          |
| Background Density           | 1+                      |                            |          |
| <b>Other</b>                 | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Dander                       | 19                      | 760                        | n/a      |
| Fibers                       | 3                       | 120                        | n/a      |
| <b>Fungal Identification</b> | <b>Raw Count</b>        | <b>Count/M<sup>3</sup></b> | <b>%</b> |
| Aspergillus/Penicillium      | 1                       | 40                         | 10       |
| Basidiospores                | 4                       | 160                        | 40       |
| Cladosporium species         | 5                       | 200                        | 50       |
| <b>TOTAL</b>                 | <b>10</b>               | <b>400</b>                 |          |

Signature:

*K. Smith*

Date: 2/20/2019

Reviewed:

*Johnathan Wilson*

Date: 2/20/2019

# Direct Identification Lab Results



SanAir ID Number  
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Analyst: Shepperson, Josh

## Direct Identification Analysis

SanAir ID: 19007306-001 Sample #: SW 1 Dance Room Round Table

### D1 - Direct Identification Analysis on Surface Swab using STL 104

Direct ID of Mold

| Fungi               | Estimated Amount |
|---------------------|------------------|
| Aspergillus species | Light            |

SanAir ID: 19007306-002 Sample #: SW 2 Mail Room Diffusers

### D1 - Direct Identification Analysis on Surface Swab using STL 104

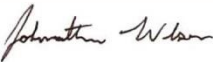
Direct ID of Mold

| Fungi                | Estimated Amount |
|----------------------|------------------|
| Alternaria species   | Rare             |
| Ascospores           | Rare             |
| Basidiospores        | Rare             |
| Cladosporium species | Light            |
| Curvularia species   | Rare             |
| Smuts/Myxomycetes    | Rare             |

| Estimated Amount | Indication of Growth | Evidence of Mycelial Fragments/Conidiophores |
|------------------|----------------------|--|
| Rare             | Not Likely           | None   |
| Light            | Possible             | Some, 10 to 25% of Tape Covered              |
| Moderate         | Probable             | Abundant, 25 to 50% of Tape Covered          |
| Heavy            | Significant          | Throughout, 50 to 100% of Tape Covered       |

\*Refer to additional information page for further details

Signature:   
Date: 2/20/2019

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**Collected Date:** 2/16/2019  
**Received Date:** 2/18/2019 8:55:00 AM

## Organism Descriptions

*The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.*

**Dander** - Comprised of human and/or animal skin cells. Counts may be higher in carpeted rooms and in rooms with more traffic.  
**Health Effects:** May cause allergies.

**Fibers** - This category can include clothing, carpet, and insulation fibers.

**Alternaria species** - This genus comprises a large number of saprobes and plant pathogens. It is one of the predominate airborne fungal spores indoor and outdoor. Outdoors it may be isolated from samples of soil, seeds, and plants. It is one of the more common fungi found in nature, extremely widespread and ubiquitous. Conidia are easily carried by the wind, with peak concentrations in the summer and early fall. It is commonly found in outdoor samples. It is often found in indoor environments, on drywall, ceiling tiles, in house dust, carpets, textiles, and on horizontal surfaces in building interiors. Often found on window frames.

**Health Effects:** In humans, it is recognized to cause type I and III allergic responses. Because of the large size of the spores, it can be deposited in the nose, mouth and upper respiratory tract, causing nasal septum infections. It has been known to cause Baker's asthma, farmer's lung, and hay fever. It has been associated with hypersensitivity pneumonitis, sinusitis, dermatomycosis, onychomycosis, subcutaneous phaeoerythromycosis, and invasive infection. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

**References:** Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

**Ascospores** - From the fungal Subphylum Ascomycotina. Ascospores are ubiquitous in nature and are commonly found in the outdoor environment. This class contains the "sac fungi" and yeasts. Some ascospores can be identified by spore morphology, however; some care should be exercised with regard to specific identification. They are identified on tape lifts and non-viable analysis by the fact that they have no attachment scars and are sometimes enclosed in sheaths with or without sacs. Ascomycetes may develop both sexual and asexual stages. Rain and high humidity may help asci to release, and disperse ascospores, which is why during these weather conditions there is a great increase in counts.

**Health Effects:** This group contains possible allergens.

**Aspergillus species** - A genus of fungi containing over 180 recognized species. Members of this genus have been recovered from a variety of habitats, but are especially common as saprophytes on decaying vegetation, soils, stored food, and feed products in tropical and subtropical regions. Some species are xerophilic. Some species are parasitic on insects, plants and animals, including man. Some species are reported mycotoxin producers. Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group. Only through the visualization of reproductive structures can the genera be distinguished.

**Health Effects:** Can produce type I and III fungal hypersensitivities. All of the species contained in this genus should be considered allergenic. Various Aspergillus species are a common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms. Chronic cases may develop pulmonary emphysema. Members of this genus are reported to cause a variety of opportunistic infections of the ears and eyes. Severe pulmonary infections may also occur.

**References:** Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.



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## Organism Descriptions

*The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.*

**Aspergillus/Penicillium** - These spores are easily aerosolized. Only through the visualization of reproductive structures can the genera be distinguished. Also included in this group are the spores of the genera Acremonium, Phialophora, Verticillium, Paecilomyces, etc. Small, round spores of this group lack the necessary distinguishing characteristics when seen on non-viable examination.

**Health Effects:** Can cause a variety of symptoms including allergic reactions. Most symptoms occur if the individual is immunocompromised in some way (HIV, cancer, etc). Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group.

**Basidiospores** - From the Subphylum Basidiomycotina which contains the mushrooms, shelf fungi, and a variety of other macrofungi. They are saprophytes, ectomycorrhizal fungi or agents of wood rot, which may destroy the structure wood of buildings. It is extremely difficult to identify a specific genera of mushrooms by using standard culture plate techniques. Some basidiomycete spores can be identified by spore morphology; however, some care should be exercised with regard to specific identification. The release of basidiospores is dependant upon moisture, and they are dispersed by wind.

**Health Effects:** Many have the potential to produce a variety of toxins. Members of this group may trigger Type I and III fungal hypersensitivity reactions. Rarely reported as opportunistic pathogens.

**Cladosporium species** - The most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter and are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. Often found in dirty refrigerators and especially in reservoirs where condensation is collected, on moist window frames it can easily be seen covering the whole painted area with a velvety olive green layer.

**Health Effects:** It is a common allergen. It can cause mycosis. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema. Illnesses caused by this genus can include phaeohyphomycosis, chromoblastomycosis, hay fever and common allergies.

**References:** Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

**Curvularia species** - Curvularia is found on plant material and is considered a saprobe. It has also been isolated from dust samples and from wallpaper.

**Health Effects:** It has been reported to cause type I hypersensitivity and to be a cause of allergic fungal sinusitis. It may cause corneal infections, mycetoma and infections in immune compromised hosts.

**References:** De Hoog, G.S., J. Guarro, J. Gene, and M.J. Figueras. Atlas of Clinical Fungi, 2nd Edition. The Netherlands: CBS, 2000.

**Smuts/Myxomycetes** - Smuts and Myxomycetes are parasitic plant pathogens. They are typically grouped together due to their association with plants, the outdoors and because they share similar microscopic morphology.

**Health Effects:** Can produce type I fungal hypersensitivity reactions.

**References:** Martin, G.W., C.J. Alexopoulos, and M.L. Farr. The Genera of Myxomycetes. Iowa City, Iowa: University of Iowa Press, 1983.



## Conclusions/Recommendations

The samples in this report indicate a normal fungal ecology for the specific locations tested. Therefore, the indoor air quality passed, and based on the visual inspection and the lab results, there are no health or environmental risks related to the remediation areas of the school. Please refer to the attached lab results below for identification and spore count per location.

I hope you found our service beneficial. If you have any questions or concerns, please feel free to contact me at 301-509-0010 which my cell phone and or call my office at 410-867-6262.

Respectfully,



Vinny Gigliotti (CIE)  
Environmental Solutions, Inc.



## **Industry References**

Since the 1993 New York City Department of Health (NYCDOH) document (Assessment and remediation of *Stachybotrys Atra* in Indoor Environments) was produced, several other guidance documents have been written. This report was developed in accordance with and including:

- *Fungal Contamination in Buildings: A Guide to Recognition and Management* (Health Canada, 1995).
- *Control of Moisture Problems Affecting Biological Indoor Air Quality* (Flannigan and Morey, 1996).
- *Bioaerosols: Assessment and Control* (American Conference of Government Industrial Hygienists [ACGIH], 1999).
- *Guidelines on Assessment and Remediation of Fungi in Indoor Environments* (NYCDOH, 2000).  
[external link]
- *Mold Remediation in Schools and Commercial Buildings* (U.S. EPA, 2001).
- *Report of the Microbial Growth Task Force* (The American Industrial Hygiene Association, 2001).
- *Fungal Contamination: A manual for investigation, remediation and control (BECi) 2005.*
- *29 CFR 1910, Occupational Safety and Health Standards for General Industry, U.S. Department of Labor*
- Institute of Inspection, Cleaning and Restoration Certification Standard IICRC S520 *29 CFR 1926, Occupational Safety and Health Standards for the Construction Industry, U.S. Department of Labor*
- *40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), U.S. Environmental Protection Agency*
- *ACR 2006, Assessment, Cleaning and Restoration of HVAC Systems, National Air Duct Cleaners Association, 2006\**
- *ASHRAE Standards 62.1 or 62.2*
- *ASTM D-1653, Standard Test Methods for Water Vapor Transmission of Organic Coating Films*
- *Bioaerosols: Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999*
- *Field Guide for Determination of Biological Contaminants in Environmental Samples, American Industrial Hygiene Association, 2005*
- *A Guide for Mold Remediation in Schools and Commercial Buildings, US Environmental Protection Agency, 2001 Protecting the Built Environment: Cleaning for Health, Michael A. Berry Ph.D., 1993*
- *IICRC S100 Standard and Reference Guide for Professional Carpet Cleaning, Fourth Edition, Institute of Inspection, Cleaning and Restoration Certification, (S100)\**
- *IICRC S300 Standard and Reference Guide for Professional Upholstery Cleaning, First Edition, Institute of Inspection, Cleaning and Restoration Certification, (S300)\**
- *ANSI/IICRC S500 Standard and Reference Guide for Professional Water Damage Restoration, Third Edition, Institute of Inspection, Cleaning and Restoration Certification, (S500)\**