



# Environmental Resources Group

Assessment • Remediation • Compliance • Risk Management

## INDOOR AIR QUALITY EVALUATION REPORT



**KINAWA MIDDLE SCHOOL  
1900 KINAWA DRIVE  
OKEMOS, MICHIGAN 48864**

PREPARED FOR:

**OKEMOS PUBLIC SCHOOLS  
4000 OKEMOS ROAD  
OKEMOS, MICHIGAN 48864  
ATTENTION: MR. BRIAN LIEBER**

PREPARED BY:

**ENVIRONMENTAL RESOURCES GROUP, LLC  
3125 SOVEREIGN DRIVE, SUITE 9B  
LANSING, MICHIGAN 48911**

**ERG PROJECT NO.: 250873**

**PROJECT DATE: JUNE 18, 2025**

**FINAL REPORT DATE: JULY 9, 2025**

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## 1.0 INTRODUCTION AND BACKGROUND

### 1.1 INTRODUCTION

Environmental Resources Group, LLC (ERG) was retained by Okemos Public Schools to conduct an Indoor Air Quality Evaluation within the Main Office and Guidance Office Areas at Kinawa Middle School, 1900 Kinawa Drive, Okemos Michigan. The specific tasks of the evaluation were as follows:

- Conduct visual and olfactory observations in and around the Main Office and Guidance Office.
- Conduct sampling for carbon dioxide and conduct measurements of temperature and relative humidity in select locations in and around the aforementioned rooms.
- Conduct bioaerosol (air) and microvacuum (settled dust) sampling for mold, pollen and other particulate using Air-O-Cell cassettes in the aforementioned rooms and out-of-doors.
- Collect digital photographs of current conditions.

Kristin Peterson conducted the evaluation on June 18, 2025, and was assisted by Riley Drake to determine current indoor air quality conditions in these rooms following concerns of mold and musty odors reported by staff.

### 1.2 BACKGROUND INFORMATION

The structure is a single-story building of steel and masonry construction with a flat, membrane roof. The building is believed to have been built in 1958 and was estimated to occupy approximately 120,000 square feet. The school was constructed slab-on-grade.

The building is heated and cooled by multiple air handling systems.

The school has had a history of elevated humidity that has caused mold to grow on select surfaces in the building. The high humidity levels were reported to have been corrected. Mold remediation is underway and is expected to be completed by late August.

Staff have complaints about musty odors in the Main Office area and have concerns that the musty odors are affecting air quality in the area.

ERG understands that furniture (desks, chairs, moveable classroom tables) will be replaced this summer.

### 1.3 EVALUATION EQUIPMENT AND METHODS

Kristin Peterson, a trained investigator with over 26 years of environmental experience, made visual and olfactory observations and collected samples. She was assisted by Riley Drake.

Carbon dioxide measurements were made using a TSI IAQCalc Carbon Dioxide Meter. The meter was allowed to equilibrate for five minutes prior to the collection of data from the instrument and was used pursuant to the manufacturer's recommendations.

Temperature and relative humidity measurements were made using a Protmex, Model MS6508, digital temperature humidity meter. This instrument was allowed to equilibrate for 5 minutes prior to the collection of data and was used pursuant to the manufacturer's recommendations.

Bioaerosol (air) samples and microvacuum (settled dust) samples were collected using Air-O-Cell cassettes, tubing, a calibrated rotameter and a high-volume vacuum pump. All bioaerosol samples were submitted to and analyzed in the ERG Indoor Air Quality Laboratory pursuant to the requirements of modified ASTM International Standard D7391-09.

## 2.0 VISUAL AND OLFACTORY OBSERVATIONS

During the ERG evaluation, visual and olfactory observations were made by the inspectors. A summary of observations in select areas of the Main Office and Guidance Office follows:

### Main Office Break Area

- No musty or other odors were observed immediately upon entry.
- A small number of ceiling tiles (2) were observed to have water marks. No mold was observed.
- Approximately 10 square feet (s.f.) of visible mold (surface) was observed on shelves and bookcases in the room.
- Water stains were observed under the sink. No mold was observed.
- The overall level of dust was low.

### Main Office Reception Area

- No musty or other odors were observed immediately upon entry.
- Water stains were observed on the gypsum decking above the drop ceiling tile. No visible mold was found.
- No visible mold was observed on any wooden or other surface.
- The carpet was stained but otherwise appeared to be in good condition.
- The overall level of dust was low.

### Guidance Office

- No musty or other odors were observed immediately upon entry.
- One (1) watermarked ceiling tile was observed. No mold was observed.
- The carpet was clean and appeared in good condition.
- Some of the desks had a small amount of mold on them. Approximately 2 s.f. of mold was found.
- The overall level of dust was low.

### Out-of-Doors

- The temperature was warm and the skies were overcast with a slight breeze.
- The grounds appeared well-maintained.
- Light vehicular traffic was observed.
- No pedestrian traffic was observed.

### 3.0 RESULTS OF TESTING

All samples were collected by Kristin Peterson and Riley Drake. During sampling, the building was occupied by a small number of school staff, and the investigators. No students were observed in the building.

A log with sample description information and the results of bioaerosol (air), microvacuum (settled dust) and other sample data appear in Appendix A and are summarized below:

- Indoor carbon dioxide was measured between 490 and 547 parts per million (ppm) indoors. Carbon dioxide was measured at 432 ppm out-of-doors.
- Indoor temperature was recorded between 65 and 70.7 degrees Fahrenheit. Out-of-doors temperature was recorded at 79.0 degrees Fahrenheit.
- Indoor relative humidity was recorded between 67.7 and 77.5 percent. Out-of-doors relative humidity was measured at 68 percent.
- The results of indoor bioaerosol sample analysis indicated total airborne spore concentrations between 0 and 1,200 structures per cubic meter of air ( $s/m^3$ ). Pollen was detected indoors between 0 and 100%, and other particulate was recorded between 400 and 3,700  $s/m^3$ . The out-of-doors sample had a spore concentration of 6,300  $s/m^3$ , pollen was not detected, and other particulate was recorded at 920  $s/m^3$ .
- The results of the microvacuum samples analysis measured between no spores detected to less than 1% spores in the settled dust.
- Synthetic fibers were elevated in one of the collected samples.

Digital photographs appear in Appendix B.

## 4.0 CONCLUSIONS

Test results were indicative of conditions at the time of the investigation and may not represent conditions at other times. No conclusions can be drawn regarding areas of the building which were not inspected. Based upon reports by others, the visual and olfactory observations made by the investigator and the results of sample analysis, the following conclusions were drawn.

### 4.1 DIRECT-READ INSTRUMENT MEASUREMENTS

Carbon dioxide (CO<sub>2</sub>), a colorless odorless gas that results from normal human respiration, concentrations were acceptable in the tested areas of the building and were below the limits established by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) in Voluntary Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality. The ASHRAE carbon dioxide recommended limit is 700 ppm above the out-of-doors concentration. The out-of-doors carbon dioxide concentration was 423 ppm, making CO<sub>2</sub> concentrations of 1,123 ppm or less acceptable in this case. The data indicates that adequate fresh air ventilation was provided to the tested areas of the building.

Indoor temperature readings were below the ASHRAE (Standard 55) recommended human comfort temperature range (73-79 degrees Fahrenheit) in all tested locations. The building was not occupied by students and only a small number of staff were present. No complaints of thermal discomfort were known to the investigators.

Indoor relative humidity recorded during the inspection was not acceptable and was above the limit (65%) recommended by ASHRAE (in voluntary standard 62.1-2007) in the Main Office and Guidance Office.

### 4.2 BIOAEROSOL SAMPLE RESULTS

Airborne mold concentrations in “clean” commercial buildings generally total 2,650 s/m<sup>3</sup> or less with spores of the genera *Aspergillus* and/or *Penicillium* making up not more than 750 s/m<sup>3</sup> and spores of the groups Ascospores and Basidiospores together making up not more than 1,000 s/m<sup>3</sup>. The total of all other spores should not exceed 900 s/m<sup>3</sup> (Baxter, Journal of Occupational Environmental Hygiene, January 2005). Those limits are called the Baxter Criteria. Additionally, highly allergenic spores (i.e. – *Pithomyces*, *Stemphyllium*, *Stachybotrys*) should not be present in a statistically significant number (i.e. – a raw count of 10 or more spores). Airborne mold concentrations in the building at the times and locations of sampling were within the limits established as the Baxter Criteria and are indicative of “clean” conditions.

Indoor airborne pollen concentrations in “clean” air-conditioned buildings are generally below 30 s/m<sup>3</sup>. Individuals with pollen allergy may exhibit symptoms when pollen concentrations exceed approximately 50 s/m<sup>3</sup>, especially when grass or highly allergenic ragweed pollen are present. Pollen was detected in the collected indoor air samples above 50 s/m<sup>3</sup>. No highly allergenic ragweed or grass pollen was detected and the fact that pollen was detected is not believed to be significant.

Organic fibers such as cellulose (paper fibers) may be present in “clean” buildings in the range of 0 to 10,000 s/m<sup>3</sup>. These fibers are not known to cause illness or allergy at these levels, but might suggest

inadequate housekeeping or poor ventilation, among other things. Cellulose concentrations were within the normal range (0 to 10,000 s/m<sup>3</sup>) in the collected air samples.

Inorganic fibers such as mineral wool or fiberglass (fibrous glass) may create dermal irritation when present in concentrations exceeding 1,000 s/m<sup>3</sup>. Fibrous glass was not detected in the collected air samples.

Synthetic fibers include polyester and Dacron and do not generally exceed 1,000 s/m<sup>3</sup>. The presence of elevated synthetic fiber concentrations suggests degrading synthetic fiber surfaces (clothing, carpet, upholstered furniture) and/or the need for improved housekeeping. Synthetic fibers were detected in K. Rosenbrooms office and Mrs. Maness Office and the Reception Area above the desired threshold. Synthetic fibers were not detected above the recommended range in the air in the other tested rooms. The source of the elevated synthetic fibers was not found during the investigation. ERG believes the likeliest source of synthetic fibers is the carpet present throughout much of the office space.

Mineral fibers, such as gypsum, generally do not exceed 1,000 s/m<sup>3</sup> and may be indicative of uncontrolled renovation or demolition. Mineral fibers were not detected in the collected air samples.

Opaque particles, including soot, fly ash, binders, copy toner, etc., generally do not exceed 5,000 s/m<sup>3</sup>. When indoor concentrations exceed 10,000 s/m<sup>3</sup>, attempts to identify the source of the particles and reduce their number should be made. The opaque particle concentrations did not exceed the 5,000 s/m<sup>3</sup> threshold in any collected air sample.

Insect fragments, including antennae, legs, wings, etc., should not be observed in “clean” indoor environments. Detectable quantities of insect fragments, including excrement, may cause allergic reactions in sensitive individuals and suggests the existence of current or past infestation or poor housekeeping. Insect fragments were not detected in the collected samples.

This analytical technique cannot differentiate spores of the genus *Aspergillus/Penicillium*, among others, due to their similar morphology. Additionally, some mold, pollen, yeast, bacteria, arthropods, and other airborne constituents may be present but are not identifiable by this technique.

The micovacuum samples collected in the Main Office Area had no spores to less than 1% spores in the settled dust. ERG believes that settled dust samples that contain 1% or fewer spores are reflective of “clean” conditions.

Water-stained building materials were found in the inspected areas, including ceiling tiles. The source of the water responsible for staining the tile was not evaluated.

Mold was found on the bookcases and shelves in the Break Area. Mold was found on some of the furniture in the Guidance Office. This appears to be surface mold due to past high humidity conditions.

The carpet was observed to be stained but in good condition.

Elevated relative humidity concentrations in the inspected areas suggests the need for additional or more aggressive dehumidification. Please be aware that mold remediation was in progress in the 200 wing



of the building and the HVAC system servicing that area was shut down during remediation. This may be contributing to higher than desired relative humidity in the building.

Elevated synthetic fibers were found in the Guidance Office. The source of these fibers was not found during the investigation. ERG speculates that carpet throughout the office is the likeliest source of these fibers.

The above conclusions are based on the inspection results; observations made at the time of the inspection and information provided by others. Should new or revised information become available, ERG reserves the right to revise the report, modify or change the above conclusions and subsequent recommendations.

## 5.0 RECOMMENDATIONS

Based on the observations made by the investigator, the findings of this evaluation and the conclusions above, the following recommendations are offered:

1. Employ an HVAC contractor to ensure the ventilation system servicing the Main Office and Guidance Office is fully functional and is able to control the relative humidity in the area.
2. Retain a mold remediation professional (GFL) to clean and disinfect the moldy furniture in the Main Office and Guidance Office. Discard moldy furniture which is planned to be replaced.
3. Remove the water-stained ceiling tile and replace with new tile.
4. Conduct air filtration in the Reception Area to reduce the number of airborne synthetic fibers. The use of a commercial air filtration device (AFD) with high efficiency particulate air (HEPA) filters is recommended. Operate the AFD for a period of at least 24 hours.
5. Complete mold remediation in the 200 wing as soon as possible and restart the HVAC system serving that area.

This evaluation was conducted consistent with sound investigative principles and current industry standards. Information in this report was provided by other than ERG. The accuracy or correctness of that information was not confirmed or verified by ERG. For additional information, please review the attached data or call ERG.



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Kristin Peterson  
Senior Industrial Hygienist



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Riley Drake  
Industrial Hygienist Technician



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Phillip A. Peterson  
Senior Project Manager

## APPENDIX A

### Air Sample Data Sheet and Laboratory Data



PROJECT NUMBER 250873 DATE 6/18/2025PROJECT Kinawa M.S. Main OfficeSAMPLED BY Kristin Peterson, Riley DrakeCLIENT Okemos Public SchoolsANALYZED BY ERG

## AIR SAMPLE DATA SHEET

SAMPLE #	TYPE	DESCRIPTION	TIME ON TIME OFF	SAMPLE TIME (MIN)	FLOW ON FLOW OFF (L/MIN)	AVERAGE FLOW	VOLUME (LITERS)	RESULTS							Other
								CO <sub>2</sub>	O <sub>2</sub>	LEL	CO	H <sub>2</sub> S	T (° F)	RH (%)	
1	BA	Reception Area near desk	11:34	5	16.1	16.1	80.5								See attached data sheets
			11:39		16.1										
2	FB	Field Blank		0											See attached data sheets
3	BA	Conference Room near center	11:40	5	16.1	16.1	80.5								See attached data sheets
			11:45		16.1										
4	V	Reception area on desk	11:42					497					69.9	67.7	
5	V	Break Area on desk	11:43					520					65	69.8	
6	V	On table Conference Room	11:44					500					68.5	69.5	
7	MV	On carpet under desk Reception Desk Near Kristin Rosebrook office of Guidance Office	12:03												See attached data sheets
8	BA		12:17	5	16.1	16.1	80.5								See attached data sheets
			12:22		16.1										
9	V	Guidance Office near entry	12:19					497					70.3	69	
10	V	Emily F. Office on table	12:20					490					70.7	68	

SAMPLE TYPES:

- CO - CARBON MONOXIDE
- CO<sub>2</sub> - CARBON DIOXIDE
- O<sub>2</sub> - OXYGEN
- H<sub>2</sub>S - HYDROGEN SULFIDE
- LEL - LOWER EXPLOSIVE LIMIT
- T - TEMPERATURE
- RH - RELATIVE HUMIDITY
- FB - FIELD BLANK
- B - BULK
- MV - MICROVACUUM
- BA - BIOAEROSOL
- V - VARIOUS



PROJECT NUMBER 250873 DATE 6/18/2025

PROJECT Kinawa M.S. Main Office

SAMPLED BY Kristin Peterson, Riley Drake

CLIENT Okemos Public Schools

ANALYZED BY ERG

**AIR SAMPLE DATA SHEET**

SAMPLE #	TYPE	DESCRIPTION	TIME ON TIME OFF	SAMPLE TIME (MIN)	FLOW ON FLOW OFF (L/MIN)	AVERAGE FLOW	VOLUME (LITERS)	RESULTS							Other
								CO <sub>2</sub>	O <sub>2</sub>	LEL	CO	H <sub>2</sub> S	T (°F)	RH (%)	
11	BA	Mrs. Maness Office near door	12:33	5	16.1	16.1	80.5								See attached data sheets
			12:38		16.1										
12	V	Mrs. Maness Office at entry	12:39					532					69	67	
13	MV	Mrs. Rosenbrock on carpet	12:34												See attached data sheets
14	MV	Guidance Office Main area near center	12:45												See attached data sheets
15	V	Guidance Office at door	12:47					547					69	69	
16	BA	Hallway outside office of Mrs. Clay	12:49	5	16.1	16.1	80.5								See attached data sheets
			12:54		16.1										
17	V	Hallway outside office off office	12:56					431							See attached data sheets
18	BA	Outside in parking lot	13:01	5	16.1	16.1	80.5						68.3	77.5	
			13:06		16.1										
19	V	Outside in parking lot	13:04					423					83.4	68	

SAMPLE TYPES: CO - CARBON MONOXIDE  
 CO<sub>2</sub> - CARBON DIOXIDE  
 O<sub>2</sub> - OXYGEN  
 H<sub>2</sub>S - HYDROGEN SULFIDE  
 LEL - LOWER EXPLOSIVE LIMIT  
 T - TEMPERATURE  
 RH - RELATIVE HUMIDITY  
 FB - FIELD BLANK  
 B - BULK  
 MV - MICROVACUUM  
 BA - BIOAEROSOL  
 V - VARIOUS



# IAQ Bioaerosol Analytical Report

## ERG Project Number: 250873

Page 1 of 5

Client Name: Okemos Public School  
Project Name: Kinawa Middle School - Main Office

Date of Sample Collection: 6/18/2025 Report Date: 6/20/2025  
Date of Submittal: 6/18/2025 Analyst: Kaila Schwanitz  
Date of Analysis: 6/20/2025 Minimum Reporting Limit: 60 s/m<sup>3</sup>

### Sample #

### Sample Location

### Spores

*Alternaria*  
*Ascospore*  
*Aspergillus/Penicillium*  
*Basidiospore*  
*Botrytis*  
*Chaetomium*  
*Cladosporium*  
*Curvularia*  
*Drechslera/Bipolaris*  
*Epicoccum*  
*Erysiphae/Oidium*  
*Fusarium*  
*Hyphal Fragments*  
*Nigrospora*  
*Periconia/Myxomycete/Smut*  
*Ulocladium/Pithomyces*  
*Rhizopus*  
*Stachybotrys*  
*Stemphylium*  
*Torula*  
Miscellaneous/Unidentified Spores  
**Total**

1			2			3		
Reception, near desk main office			Field Blank			Conference room near center		
structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned
ND			ND			ND		
20	300	20.3%	ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
5	60	20.3%	ND			20	300	20.3%
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
25	360		ND			20	300	

### Pollen

Grass  
Tree  
Other/Unknown Pollen  
**Total**

ND			ND			ND		
ND			ND			ND		
5	60	20.3%	ND			ND		
5	60		ND			ND		

### Other Particulate

Cellulose Fibers  
Fibrous Glass  
Synthetic Fibers  
Mineral Fibers  
Opaque Particles  
Insect Fragments  
**Total**  
\*Debris rating

15	200	20.3%	ND			5	60	20.3%
ND			ND			ND		
44	600	20.3%	ND			54	680	20.3%
ND			ND			ND		
89	1100	20.3%	5		20.3%	74	930	20.3%
ND			ND			ND		
148	1900		5			133	1670	
1			1			1		

Notes:

All samples prepared and analyzed per the modified ASTM D7391-09.



# IAQ Bioaerosol Analytical Report

## ERG Project Number: 250873

**Client Name:** Okemos Public School  
**Project Name:** Kinawa Middle School - Main Office

Date of Sample Collection: 6/18/2025 Report Date: 6/20/2025  
Date of Submittal: 6/18/2025 Analyst: Kaila Schwanitz  
Date of Analysis: 6/20/2025 Minimum Reporting Limit: 60 s/m<sup>3</sup>

### Sample #

### Sample Location

### Spores

*Alternaria*  
*Ascospore*  
*Aspergillus/Penicillium*  
*Basidiospore*  
*Botrytis*  
*Chaetomium*  
*Cladosporium*  
*Curvularia*  
*Drechslera/Bipolaris*  
*Epicoccum*  
*Erysiphae/Oidium*  
*Fusarium*  
Hyphal Fragments  
*Nigrospora*  
*Periconia/Myxomycete/Smut*  
*Ulocladium/Pithomyces*  
*Rhizopus*  
*Stachybotrys*  
*Stemphylium*  
*Torula*  
Miscellaneous/Unidentified Spores  
**Total**

8			11			16		
Near Kristin Rosebroon's office			Mrs. Maness office near door			Hallway outside office, Mrs. Clay room		
structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
59	740	20.3%	25	300	20.3%	ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
5	60	20.3%	ND			ND		
ND			ND			ND		
34	400	20.3%	54	680	20.3%	ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
ND			ND			ND		
98	1200		79	980		ND		

### Pollen

Grass  
Tree  
Other/Unknown Pollen  
**Total**

ND			ND			ND		
ND			ND			ND		
10	100	20.3%	5	60	20.3%	ND		
10	100		5	60		ND		

### Other Particulate

Cellulose Fibers  
Fibrous Glass  
Synthetic Fibers  
Mineral Fibers  
Opaque Particles  
Insect Fragments  
**Total**  
\*Debris rating

15	200	20.3%	30	400	20.3%	5	60	20.3%
ND			ND			ND		
158	2000	20.3%	133	1700	20.3%	10	100	20.3%
ND			ND			ND		
123	1500	20.3%	113	1400	20.3%	20	300	20.3%
ND			ND			ND		
296	3700		276	3500		35	460	
1			1			1		

Notes:

All samples prepared and analyzed per the modified ASTM D7391-09.



# IAQ Bioaerosol Analytical Report

## ERG Project Number: 250873

**Client Name:** Okemos Public School  
**Project Name:** Kinawa Middle School - Main Office

Date of Sample Collection: 6/18/2025 Report Date: 6/20/2025  
Date of Submittal: 6/18/2025 Analyst: Kaila Schwanitz  
Date of Analysis: 6/20/2025 Minimum Reporting Limit: 60 s/m<sup>3</sup>

### Sample #

### Sample Location

### Spores

*Alternaria*  
*Ascospore*  
*Aspergillus/Penicillium*  
*Basidiospore*  
*Botrytis*  
*Chaetomium*  
*Cladosporium*  
*Curvularia*  
*Drechslera/Bipolaris*  
*Epicoccum*  
*Erysiphae/Oidium*  
*Fusarium*  
*Hyphal Fragments*  
*Nigrospora*  
*Periconia/Myxomycete/Smut*  
*Ulocladium/Pithomyces*  
*Rhizopus*  
*Stachybotrys*  
*Stemphylium*  
*Torula*  
*Miscellaneous/Unidentified Spores*  
**Total**

18								
Out-of-doors, in parking lot								
structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned	structures/ sample	s/m <sup>3</sup>	% trace scanned
ND								
64	800	20.3%						
10	100	20.3%						
ND								
ND								
ND								
429	5400	20.3%						
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
ND								
503	6300							

### Pollen

Grass  
Tree  
Other/Unknown Pollen  
**Total**

ND								
ND								
ND								
ND								

### Other Particulate

Cellulose Fibers  
Fibrous Glass  
Synthetic Fibers  
Mineral Fibers  
Opaque Particles  
Insect Fragments  
**Total**  
\*Debris rating

ND								
ND								
5	60	20.3%						
ND								
69	860	20.3%						
ND								
74	920							
1								





# IAQ Surface Sample Analytical Results

## ERG Project Number: 250873

**Client Name:** Okemos Public School  
**Project Name:** Kinawa Middle School - Main Office

Date of Sample Collection: 6/18/2025  
Date of Submittal: 6/18/2025  
Date of Analysis: 6/20/2025

Report Date: 6/20/2025  
Analyst: Kaila Schwanitz

Sample #	7	13	14
Sample Type	Microvacuum	Microvacuum	Microvacuum
Sample Location	On carpet under desk	Mrs. Rosenboch office, carpet under desk	Guidance office
Spores, Pollen, and Other Particulate (In decreasing order of abundance)	Non Fibrous Matter Synthetic Fibers Opaque Particles Cellulose Fibers <i>Cladosporium</i> Pollen	Non Fibrous Matter Synthetic Fibers Pollen Opaque Particles	Non Fibrous Matter Synthetic Fibers Opaque Particles Pollen <i>Cladosporium</i>
Notes:	This sample contains less than 1% spores.		This sample contains less than 1% spores.

Surface samples were analyzed pursuant to the requirements of the ASTM International Standard D-7391.



### Comments

\*Debris rating (% obstructed by particulate matter ): 0= no particulate matter detected, 1= >0-5%, 2= 6%-25%, 3= 26%-76%, 4= 75%-90%, 5= >90%. Where debris rating =5, fungal/pollen/other particulate are reported as "present." For debris ratings 2-4, negative bias is expected. The degree of negative bias increases with the percent of the trace that is obstructed.

Samples were received in acceptable condition, unless otherwise indicated. Results relate only to items tested. Results are reported in units of structures per cubic meter of air (s/m<sup>3</sup>), except blank samples, where the actual number of observed particles are reported. Spore types listed without a count or other data indicate that the specific analyte was not detected during the course of sample analysis. Spores of the genera *Aspergillus* and *Penicillium* are categorized together due to their small size and spherical shape with few distinguishing characteristics. Other similar spores will be categorized as *Aspergillus/Penicillium* unless fruiting bodies allow more precise identifications.

ND= none detected (minimum of 20.3% trace scanned) unless otherwise reported .

Minimum Reporting Limit represents the lowest calculated limit in this report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

Flow Rate is in liters per minute. Time is reported in minutes.

The enclosed data from Environmental Resources Group, LLC (ERG) is for sample(s) collected by our client. The client bears all risk relative to the use of this data, including any course of action or inaction. Further, ERG asserts that the data pertains only to the submitted sample(s). ERG makes no representation or guarantee about the source of the material analyzed, the suitability of the sample size, sample frequency or sample distribution, or the relationship of the submitted sample(s) to the area sampled.

Approved Signatory: \_\_\_\_\_

Date: 6/23/2025

3125 Sovereign Drive • Suite B • Lansing, MI 48911  
phone: 517-999-6020 • Fax 248-924-3108

Client Name: <b>Okemos Public Schools</b>		Matrix Code	
Contact Person: <b>K. Peterson</b>		S Soil	
Project Name/ Number: <b>250873</b>		A Air	
Project Location: <b>Kinawa Ms. Math of f.c.r</b>		O Oil	
Email Distribution List: <b>Kristin. Peterson@okemos.net</b>		B Bulks	
Phone No.:		Ground Water	
Purchase Order No.:		SW Surface Water	
Date		W Wastewater	
Time		X Other: Specify	
Sample #		HOLD SAMPLE	
Client Sample Descriptor		# OF CONTAINERS	
01 Reception - near bldg main office		1	
02 Field Blank		1	
03 Conference Room near center		1	
07 on carpet under desk		1	
08 Kristin Rosebrook's office		1	
11 Mrs. Macell's office near door		1	
13 Mrs. Rosebrook's office		1	
14 Guidance office near center		1	
16 Hallway outside office		1	
18 out doors in parking lot		1	
Date		MATRIX (SEE RIGHT CORNER FOR CODE)	
Time		I A Q	
Sample #		PARAMETERS	
Client Sample Descriptor		S Soil	
01 Reception - near bldg main office		A Air	
02 Field Blank		O Oil	
03 Conference Room near center		B Bulks	
07 on carpet under desk		Ground Water	
08 Kristin Rosebrook's office		SW Surface Water	
11 Mrs. Macell's office near door		W Wastewater	
13 Mrs. Rosebrook's office		X Other: Specify	
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date		Remarks:	
Time		BA 80.5 L	
Sample #		FB	
Client Sample Descriptor		BA 80.5 L	
01 Reception - near bldg main office		MV	
02 Field Blank		BA 80.5 L	
03 Conference Room near center		BA 80.5 L	
07 on carpet under desk		MV	
08 Kristin Rosebrook's office		MV	
11 Mrs. Macell's office near door		BA 80.5 L	
13 Mrs. Rosebrook's office		BA 80.5 L	
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date		Comments:	
Time		Samples received in acceptable condition	
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date		Received By:	
Time		Received By:	
Sample #		Received By Laboratory:	
Client Sample Descriptor		LAB USE ONLY	
01 Reception - near bldg main office		Kaitlin Schmitt	
02 Field Blank		ERG project number: 250873/0001/0003	
03 Conference Room near center		Temperature upon receipt at Lab	
07 on carpet under desk		(if applicable):	
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date		Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY	
Time		Same day 1 bus. day 2 bus. days 3 bus. days 4 bus. days	
Sample #		Other (specify time/date requirement):	
Client Sample Descriptor		X 5-7 bus. days (standard)	
01 Reception - near bldg main office		Please see back for terms and conditions	
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date			
Time			
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date			
Time			
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date			
Time			
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date			
Time			
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room near center			
07 on carpet under desk			
08 Kristin Rosebrook's office			
11 Mrs. Macell's office near door			
13 Mrs. Rosebrook's office			
14 Guidance office near center			
16 Hallway outside office			
18 out doors in parking lot			
Date			
Time			
Sample #			
Client Sample Descriptor			
01 Reception - near bldg main office			
02 Field Blank			
03 Conference Room			

# APPENDIX B

## Digital Photograph Log






Photograph Date: June 18, 2025

Photo taken by: ERG

Site: Kinawa Middle School, Okemos, MI

ERG Project #: 250873



 A photograph showing a close-up of a wooden cabinet in a break area. The cabinet surface is covered with a dense, yellowish-green mold. A bright light source, possibly a flashlight, is visible on the left, casting a beam of light onto the moldy surface.	<p>1. Mold was observed on the cabinet in the Break Area.</p>
 A photograph of a drop ceiling tile in a break area near a door. The tile is white and shows significant water staining, appearing as a large, irregular brownish-yellow patch. A metal door handle is visible in the lower left corner of the frame.	<p>2. Water stained ceiling tile was observed in the Break area near the door.</p>
 A photograph showing the underside of a drop ceiling tile in the Main Office. The decking is made of wood and shows significant water staining, appearing as a large, irregular brownish-yellow patch. A red metal support structure is visible in the foreground, and a pink cable runs across the top of the frame.	<p>3. Water stained decking above the drop ceiling tile in the Main Office.</p>