

May 10, 2017

MB3-99-RLP-#377
Mr. Jeff Fritz, Superintendent
Clay Community Schools
1013 S. Forest Ave.
Brazil, IN 47834

Dear Mr. Fritz:

The purpose of this letter is to report the result of our indoor air quality evaluation at Clay City High School on May 1, 2017. This evaluation was conducted at Mr. Howard's request to address the health concerns of the occupants that may be related to indoor air quality of the school.

The Indiana State Department of Health's Microbiological Laboratory incubated and counted the fungal and bacterial units. The total colony forming units per cubic meter of air (CFU/M³) were computed by adding the fungal and bacterial counts, and dividing the sum by the total volume of the sampled air. Please refer to Table 1 for further details.

Outdoor fungal counts were higher than any areas inside the building. There are no limits established as an acceptable concentration of fungal counts indoors. There are guidelines that recommend fewer counts indoors than outdoors.

The Carbon dioxide (CO₂) level was measured inside the classrooms. The highest carbon dioxide level measured was 801 parts CO₂ per million parts of air (ppm). The School Indoor Air Quality rule, 410 IAC 33-4-2 states "carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration", in this case giving a limit of 1094 ppm. ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) recommends 15 cfm (cubic feet per minute) of outdoor air per person for classrooms.

The outdoor relative humidity was measured at 45 percent (%). The indoor relative humidity was 46%. The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) recommend the relative humidity in habitable spaces preferably should be maintained between 30% and 60% to minimize growth of allergenic and pathogenic organisms.

Humidity levels above 50% have been found to increase the population size of molds, fungi and mites that may cause allergies. The evidence suggests that humidity levels should be maintained between 40% and 50% to reduce the incidence of upper respiratory infections and to minimize the adverse effect on people suffering from asthma or allergies. Such a range would be hard to maintain, however, exposure to higher or lower levels are unlikely to affect the health of most people.

Individuals experiencing any health problems should seek medical advice from a physician.

The School Indoor Air Quality rule 410 IAC 33-6-2 requires this report be posted for 14 days at the location of the school building stated in the report so they are accessible to all students, parents, and employees.

If you have questions, please contact me at 317/351-7190 ext. 264

Sincerely,

A handwritten signature in black ink that reads "Rick Plew". The signature is written in a cursive, flowing style.

RICK PLEW
Industrial Hygienist
Indoor Air Section, Environmental Public Health Division
Enclosure

TABLE 1
Clay City High School
Clay City, IN

Computed Microbiological Air Sample Results
 Taken May 1, 2017

SAMPLE ID	LOCATION	NO. OF OCCUPANTS	RELATIVE HUMIDITY (%)	CARBON DIOXIDE (ppm)	AIR SAMPLED (liters)	FUNGAL COUNT (CFU/M ³)	BACTERIAL COUNT (CFU/M ³)	TOTAL COUNT (CFU/M ³)
1	Room 211	24	46	801	150	7	13	20
2	Room 212	16	46	767	150	13	13	26
3	Room 213	14	45	694	150	40	27	67
4	Outdoor	-	45	394	150	480	20	500

Notes:

% -----percent

Ppm-----parts per million

CFU/M³—colony forming units per cubic meter of air