

**Author's Note:** Parenthetical numerals at the end of a sentence reference the work with the corresponding notation in the **References** section. *Please read this report in its entirety, including any attached appendices, to fully understand this investigation.*

## **Executive Summary**

The Ulster BOCES Risk Management Department was contacted by the Saugerties CSD Buildings and Grounds Director about an air quality concern at the District's Riccardi Elementary School, following an asbestos floor tile abatement project. Air quality sampling was requested in the faculty Room at Riccardi Elementary School, but similar concerns were also present in hallways and a classroom where abatement was done. TSI Model 7575 Q-Trak Indoor Air Quality Monitoring equipment was set up to gather ambient characteristics of the air in the room, with respect to carbon dioxide levels, temperature, relative humidity, barometric pressure and volatile organic compounds (VOC). The equipment was left in place for an approximate 48 hour time period. The results were downloaded from the sampling equipment and the graph was created from the data, showing the resultant levels for the criteria measured. The results are attached.

## **Project Scope**

Indoor air quality sampling in the faculty room of the Riccardi Elementary School following an asbestos floor tile abatement project. Review the data and information and prepare a written report for Saugerties CSD.

## **Results Summary**

All sample results and other data were reported to the administration of the local educational agency (LEA) via phone, fax, or e-mail as they became available to our department. See the Appendix for full air sampling results.

### **Riccardi Elementary School Faculty Room air quality sampling**

<b>Sample</b>	<b>Result</b>
Carbon dioxide	Average of 503 PPM ASHRAE recommends 700 PPM above outside levels with a maximum of 1200 PPM
Temperature	77.5 degree F average ASHRAE recommends average of 71 degrees F
Relative Humidity	Average of 34.3% with range of 20-57% ASHRAE recommends 30%-60% range.
Barometric Pressure	29.64-29.80 InHG Normal range is 29.6 to 30.2 (InHG)
Volatile Organic Compounds	2.87 PPM average over the 48 hour time period

### **Discussion**

The National Institute for Occupational Safety & Health (NIOSH), a division of the Center for Disease Control, uses the term Indoor Environmental Quality (IEQ) to describe the perception of the indoor environment by occupants of non-industrial facilities like offices and schools. Occupants of these facilities frequently report a variety of physical symptoms (e.g. headache, fatigue eye and skin irritation) that they attribute to poor indoor air. If air is the culprit there may be a number of causes, including chemical, physical and biological contamination.

These contaminants can create odors, cause occupant discomfort, and, occasionally, create a health hazard.

## **Comments & Recommendations**

The Ulster BOCES Risk Management Department was contacted by Saugerties CSD Director of Buildings and Grounds about an air quality concern at the District's Riccardi Elementary School following an asbestos floor tile abatement project. Air quality sampling was requested in the Faculty Room although there were similar concerns in hallways and a classroom where abatement was also done. TSI Model 7575 Q-Trak Indoor Air Quality Monitoring equipment was set up to gather ambient characteristics of the air in the room, with respect to carbon dioxide levels, temperature, relative humidity, barometric pressure and volatile organic compounds (VOC). The equipment was left in place for an approximate 48 hour time period. The results were downloaded from the sampling equipment and the graph was created from the data, showing the resultant levels for each criteria measured. The results are attached.

The results indicated the presence of Volatile Organic Compounds (VOC's) in the subject room, but these results were inconclusive. The Saugerties CSD should have further air testing done to identify exactly what VOC's are present in the abatement areas and evaluate them based on acceptable regulatory standards.

## **References**

1. **American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE):** *ASHRAE Standard 62-2001 – Ventilation for Acceptable Indoor Air Quality*. Atlanta, GA: ASHRAE, 2001.
2. **American Conference of Governmental Industrial Hygienists (ACGIH):** *Bioaerosols: Assessment and Control*. Cincinnati, OH: ACGIH. 1999.
3. **DiNardi, S.R. (ed.):** *The Occupational Environment – Its Evaluation and Control*. Fairfax, VA: American Industrial Hygiene Association (AIHA), 1997.

4. **Weeks, D.M. (ed):** *The Practitioner's Approach to Indoor Air Quality Investigations*. Fairfax, VA: American Industrial Hygiene Association (AIHA), 1990.

# Riccardi Elementary School

Tile Removal Indoor Air Quality

CO2

T

H

BP

VOC

